

**EFFECTIVENESS OF COMMUNICATION BOARD ON  
THE COMMUNICATION PROCESS AMONG APHASIC PATIENTS**

**BY**

**RIMI SARKAR**

**A DISSERTATION SUBMITTED TO THE TAMILNADU DR.M.G.R MEDICAL  
UNIVERSITY, CHENNAI, IN PARTIAL FULFILLMENT OF  
THE REQUIREMENTS FOR THE DEGREE OF  
MASTER OF SCIENCE IN NURSING**

**OCTOBER 2017**

**EFFECTIVENESS OF COMMUNICATION BOARD ON  
THE COMMUNICATION PROCESS AMONG APHASIC PATIENTS**

**Approved by the dissertation committee on** : \_\_\_\_\_

**Research Guide** : \_\_\_\_\_

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**A DISSERTATION SUBMITTED TO THE TAMILNADU DR.M.G.R MEDICAL  
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MASTER OF SCIENCE IN NURSING**

**OCTOBER 2017**

## **DECLARATION**

I hereby declare that the present dissertation entitled **“Effectiveness of Communication Board on the Communication Process Among Aphasic Patients”** is the outcome of the original research work undertaken and carried out by me under the guidance of **Dr. Latha Venkatesan**, M.Sc, (N)., M.Phil (N)., Ph.D (N)., Ph.D (HDFS)., M.B.A (HM)., Principal, Apollo College of Nursing, and **Dr. Lizy Sonia. A**, M. Sc (N), Ph.D (N), Vice Principal, HOD of Medical Surgical Nursing, Apollo College of Nursing, Chennai. I also declare that the material of this has not found in anyway, the basis for the award of any degree or diploma in this university or any other university.

**RIMI SARKAR**

**M.SC (N) II YEAR**

## ACKNOWLEDGEMENT

I thank **God almighty** for showering his blessings upon me and showing me the way to conduct my work with spirit of enthusiasm throughout my study.

I dedicate my heartfelt thanks and sincere gratitude to our esteemed leader **Dr. Latha Venkatesan**, M.Sc (N)., M. Phil (N)., Ph. D (N)., Ph. D (HDFS)., M.B.A (HM), Principal cum Professor of Apollo college of nursing for her constant support, valuable suggestions and tireless motivation to carry out my study successfully.

I take this opportunity to express my warm pleasure and deep sense of gratitude to my guide **Dr. Lizy Sonia. A**, M.Sc (N)., Ph. D (N)., Vice Principal, HOD of Medical Surgical Nursing, Apollo College of nursing for her tremendous help and continuous encouragement and inspiring guidance throughout my study.

With special reference I thank **Dr. Muthu Kumar. P**, MBBS., M.D (Pediatrics)., DM (Neurology), Consultant Neurology, Apollo specialty hospital, Vanagaram, for his elegant direction and worthwhile suggestions in performing the study.

My special gratitude to **Dr. K. Vijayalakshmi**, M.Sc (N)., M.A Psychology., Ph.D. (N)., Research coordinator, Apollo college of nursing for her timely suggestions, valuable guidance throughout my study.

I owe my special thanks to **Dr. Muralidharan M**, Director of medical education, Apollo Main Hospitals for permitting me to conduct my study.

My deep gratitude to **Mrs. Dhanalakshmi V**, M.Sc (N), Reader and course coordinator for her constructive ideas and enormous concern.

With the special word of reference, I thank **all the experts** for validating my tool and offering worthy suggestions to make it effective.

I also extend my special thanks to all the **Faculty in the departments of Medical Surgical Nursing** and Heads of all the department for rendering their valuable guidance and ideas in completing my study.

I extend my sincere gratitude to the **Librarians** of Apollo College of Nursing. My special gratitude to **Mr. Babu** and his team, Netway Printers, Ayyapanthangal, for their constructive and creative efforts in typing the dissertation.

I would like to extend my heartfelt thanks to **all my friends** who supported me with helping hands a lot in the days of struggle and guide with their valuable advice.

I express my deep sense of gratitude to all the **participants** in this study for their tremendous co-operation. It is my privilege to thank all my colleagues and other person who have sailed with me and involved in the completion of this dissertation.

I would fail in my duty if I forget to thank my loved ones behind the scene. I am grateful to my parents, **Mr. Dipak Sarkar** and **Mrs. Susmita Majumder Sarkar**, for their support and down their prayers, their blessings and their help rendered to me in completing my study successfully.

## **SYNOPSIS**

An Experimental Study to assess the Effectiveness of Communication Board on the Communication Process among Aphasic Patients at Selected Hospitals, Chennai.

### **The Objectives of the study**

1. To assess the level of communication before and after use of the communication board among the control and the experimental group of aphasic patients.
2. To determine the effectiveness of the communication board on the communication process by comparing the communication process between the control and the experimental group of aphasic patients.
3. To assess the level of satisfaction regarding the communication board in the experimental group of aphasic patients.
4. To determine the association between selected demographic variables and the level of communication among the control and the experimental group of aphasic patients.
5. To determine the association between selected clinical variables and the level of communication among the control and the experimental group of aphasic patients.

The study was conducted using quasi experimental design among 60 aphasic patients at Apollo hospitals, Chennai. Among sixty aphasic patients thirty patients were used communication board and thirty patients were used existing method of communication.

The conceptual frame work of present study is based on Kings Goal attainment model 1981. According to Imogene King, nursing is defined as a process of action, reaction, whereby nurses and clients share information about their perception. Through perception and communication, they identify the problems for which they set goal and take necessary action.

An extensive literature review and guidance by experts formed foundations for the development of the tool. An experimental research approach was used to achieve the objectives of the study.

The data was collected by the researcher using the tools such as the demographic variable proforma, clinical variable proforma, observation rating scale for communication process and numerical rating scale for assessing the satisfaction level of patients. The data collection tools were validated and reliability was established. After pilot study, the data for the main study was collected for the period of 4 weeks. The collected data was tabulated and analyzed by using descriptive and inferential statistics.

### **Major findings of the study**

- Study findings revealed that 40 % of the control group aphasic patients were in age group of  $\leq 35$  years, whereas in the experimental group it was 33.33%. It was also observed that majority were males 63.33% in the control group and 73.34 % in the experimental group of aphasic patients. In the control group 36.66% of the aphasic patients have studied up to higher secondary and in the experimental group 43.34% of the aphasic patients were graduates. There was

no significant difference between the control and the experimental group with regard to demographic variables, indicating the homogeneity of the group.

- Study findings depicts that ET tube was used among 36.66% in the control group and 30% in the experimental group of aphasic patients. Majority of the patients in the control group 76.67% and 66.6% in the experimental group of aphasic patients had no history of surgery. Regarding sedation use, 73.34% in the control group and 76.67% in the experimental group did not use sedation. Fifty percent in the control group and 53.34% in the experimental group had GCS between 8-12. There was no significant difference between the control and the experimental group with regard to clinical variables, indicating the homogeneity of the group.
- Majority of aphasic patients had inadequate communication process in the control group (90%), whereas in the experimental group only 76.67% had inadequate communication process during pretest.
- In the post-test 56.66% had inadequate communication process in the control group, whereas 56.67% had moderately adequate communication process in the experimental group of aphasic patients.
- The communication process in the experimental group had high mean score in post-test ( $M=27.03$ ,  $SD=5.64$ ) compared to pretest ( $M=10.53$ ,  $SD=6.71$ ) among aphasic patients. The difference was statistically significant at  $p<0.001$  level, whereas in the control group there was no significant difference between post-test ( $M=10.01$ ,  $SD=5.08$ ) and pre-test ( $M=9.93$ ,  $SD=5.29$ ) mean score among aphasic patients. Hence the null hypothesis  $H_01$  stated that there will be no significant difference in the communication process between the control



and the experimental group of aphasic patients before and after using communication board was rejected.

- The experimental group of aphasic patients had higher mean score ( $M=10.53$ ,  $SD=6.71$ ) during pretest in comparison with the control group ( $M=9.93$ ,  $SD=5.29$ ) regarding communication process. The difference was not statistically significant. In posttest, the communication process in the experimental group had higher mean score ( $M=27.03$ ,  $SD=5.64$ ) in comparison with the control group ( $M=10.01$ ,  $SD=5.08$ ) of aphasic patients. The difference was statistically significant at  $p<0.001$  level. The result can be attributed to the effectiveness of the communication board used by the experimental group of aphasic patients. Hence the null hypothesis  $H_01$  stated that there will be no significant difference in the communication process between the control and the experimental group of aphasic patients before and after using communication board was rejected.
- The level of satisfaction with regard to the use of communication board denoted that 53.34% of aphasic patients were satisfied and 30% of them were highly satisfied with the use of communication board.
- Study findings represented that there was no significant association between selected demographic variables and communication process of aphasic patients. Hence, the null hypothesis  $H_02$  stated that there will be no significant association between the communication process and demographic variables in the control and the experimental group of aphasic patients was retained.
- Study findings denoted that there was a significant association between GCS level and communication process of aphasic patients in the control group pretest ( $\chi^2=20.13$ ,  $p<0.001$ ), post-test ( $\chi^2=19.41$ ,  $p<0.001$ ) and the

experimental group pretest ( $\chi^2=17.1$ ,  $p<0.001$ ) and post-test ( $\chi^2=6.76$ ,  $p<0.01$ ).

There was a significant association between sedation used and communication process in the control group after therapy ( $\chi^2=5.25$ ) at  $p<0.05$  level, whereas there was no significant association between the other clinical variables such as surgery, sedation and communication process of patients using communication board. Hence, the null hypothesis  $H_{03}$  stated that there will be significant association between the communication process and clinical variables in the control and the experimental group of aphasic patients with regard to GCS and sedation were rejected and the clinical variable with regard to surgery was retained.

### **Recommendations**

- A similar study can be conducted with a large sample, for generalization of study findings.
- A Comparative Study can be conducted using picture board and other communication methods such as electronic devices can be conducted.
- Study can be replicable in other setting also.
- A similar study can be conducted to assess the level of satisfaction among ICU staff nurses dealing with intubated patients.

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## APPENDIX I

### LETTER SEEKING PERMISSION TO CONDUCT THE STUDY



**Apollo College of Nursing**

(Recognised by the Indian Nursing Council and Affiliated to the Tamil Nadu Dr. M.G.R. Medical University, Chennai)

CO/0202/16

29.08.2016

TO

Dr.C.Paul Dilip Kumar  
Asst. Director Medical services  
Apollo Specialty Hospital  
Vanagaram  
Chennai – 600 095.

Respected Sir,

**Sub:** To request permission for research study – Reg


**Greetings!** As part of the curriculum requirement our 2<sup>nd</sup> year M.Sc. (N) Student MS. Rimi Sarkar has selected the following title for her research study.

**“A study to assess the effect of the communication booklet on communication process among aphasic patients at selected hospitals, Chennai”.**

So I kindly request your good selves to permit her to conduct study in your Esteemed hospital.

Thanking you,

  
**DR.LATHA VENKATESAN**  
**PRINCIPAL**

125 /  
Kandam de vira  
received  
30/8/16  


IS/ISO 9001:2000

Vanagaram to Ambattur Main Road, Ayanambakkam, Chennai - 600 095.  
Ph. : 044 - 2653 4387 Tele fax : 044 - 2653 4923 / 044- 2653 4386

## LETTER PERMITTING TO CONDUCT THE STUDY



**Apollo College of Nursing**

(Recognised by the Indian Nursing Council and Affiliated to the Tamil Nadu Dr. M.G.R. Medical University, Chennai)

CO/0203/16

29.08.2016

To

Dr. Muralidharan.M  
Director of Medical Education  
Apollo Main Hospitals  
Greaves Road  
Chennai – 600006

Respected Sir,

**Sub:** To request permission for research study – Reg

**Greetings!** As part of the curriculum requirement our 2<sup>nd</sup> year M.Sc. (N) Student MS. Rimi Sarkar has selected the following title for her research study.

**“A study to assess the effect of the communication booklet on communication process among aphasic patients at selected hospitals, Chennai”.**

So I kindly request your good selves to permit her to conduct study in your Esteemed hospital.

Thanking you,

  
**DR.LATHA VENKATESAN**  
**PRINCIPAL**

29/8/2016  
Dear Madam,  
Can you arrange these  
Candidates please.

yes please  
Greetings  
30/8/16.

  
**Dr. MURALIDHARAN. M**  
MB.,MRCS(EDIN),FRCS(GLAS).,  
FMS(LAPROSCOPIC SURGERY)  
DIRECTOR MEDICAL EDUCATION  
SOUTHERN REGION  
APOLLO HOSPITALS, CHENNAI.



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## APPENDIX II

### ETHICAL COMMITTEE CLEARANCE LETTER

#### Institutional Ethics Committee - Clinical Studies

Reg.No.: ECR/37/Inst/TN/2013



25 Nov 2016

To,  
Ms. Rimi Sarkar,  
First year, M.Sc. (Nursing),  
Department of Medical Surgical Nursing,  
Apollo College of Nursing, Chennai.

**Ref:** An Experimental Study to Assess the Effectiveness of Communication Board on the Communication Process Among Aphasic Patients at Selected Hospitals, Chennai.

**Sub:** Approval of the above referenced project and its related documents.

Dear Ms. Rimi Sarkar,

The Institutional Ethics Committee-Clinical Studies has received the following document submitted by you related to the conduct of the above-referenced study -

- Project Proposal

The Institutional Ethics Committee-Clinical Studies reviewed and discussed the project proposal documents submitted by you at a meeting held on 22 November 2016.

The following Institutional Ethics Committee – Clinical Studies members were present at the meeting held on 22<sup>nd</sup> Nov 2016 at 3.30 PM at, Apollo Research & Innovations, Conference Hall, Room No: 19, 2nd Floor, Krishnadeep Chambers, (Apollo Hospitals, Annex No: 1), Wallace Garden, Chennai – 600006

S. No	Name	Gender	Designation	Affiliation	Position in the committee
1	Dr. Rema Menon	F	Blood Bank Transfusion Services	Apollo Hospitals, Chennai	Member Secretary
2	Dr. Pradeep Kumar	M	Pharmacologist	Apollo Hospitals, Chennai	Pharmacologist
3	Ms. Maimoona Badsha	F	Lawyer	Independent legal Practitioner, Chennai	Lawyer
4	Mrs. Malathy Chandrasekhar	F	Home based teacher	Freelance	Layperson
5	Dr. K. Sathyamurthi	M	Asst. Professor	Madras School of Social work, Chennai	Social Scientist

**Apollo Hospitals Enterprise Limited,**

21, Greams Lane, Off Greams Road, Chennai - 600 006, Tamil Nadu, India. Tel : +91-44-2829 5045 / 6641 Fax : +91-44-2829 4449

E-mail : ecapollochennai@gmail.com

## Institutional Ethics Committee - Clinical Studies

Reg.No.: ECR/37/Inst/TN/2013



The Institutional Ethics Committee-Clinical Studies reviewed the proposal, its methodology and design of the study. The proposed thesis work is approved in the presented form without any modifications.

The Institutional Ethics Committee-Clinical Studies review and approval of the report is only to meet their academic requirement and will not amount to any approval of the conclusion / recommendations as conclusive, deserving adoption and implementations, in any form, in any health care institution.

The Institutional Ethics Committee-Clinical Studies is constituted and works as per ICH-GCP, ICMR and revised Schedule Y guidelines.

Regards,

**Dr. Rema Menon,**  
Member Secretary,  
Institutional Ethics Committee-Clinical Studies,  
Apollo Hospitals,  
Chennai.

Date: 25/11/2016

**MEMBER SECRETARY**  
**INSTITUTIONAL ETHICS COMMITTEE CLINICAL STUDIES**  
**APOLLO HOSPITALS, AHEL**  
**CHENNAI, TAMILNADU.**

---

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E-mail : [ecapollochennai@gmail.com](mailto:ecapollochennai@gmail.com)

### **APPENDIX III**

#### **LETTER SEEKING PERMISSION FOR CONTENT VALIDITY**

**From**

Rimi Sarkar  
M.Sc. (Nursing) Second Year,  
Apollo College of Nursing,  
Chennai – 600 095.

**To**

Forwarded Through:  
Dr. LathaVenkatesan,  
Principal,  
Apollo College of Nursing.  
Chennai – 600 095.

**Sub:** Requesting for opinions and suggestions of experts for establishing content validity for research tool.

**Respected Madam,**

Greetings!! As a part of the curriculum requirement the following research title is selected for them study.

**“An Experimental Study to Assess the Effectiveness of Communication Board on the Communication Process among Aphasic Patients at Selected Hospitals, Chennai”.**

I will be privileged to have your valuable suggestions with regards to the establishment of content validity of the research tool. I kindly request you to validate my research tool and give suggestions about the same. I would be highly obliged and remain thankful for your great help for validating my tool.

**Thanking you,**

**Date:**

**Yours sincerely,**

**Place:**

**Rimi Sarkar**

## **APPENDIX IV**

### **LIST OF EXPERTS FOR CONTENT VALIDITY**

**1. Dr. LathaVenkatesan,**

**M.Sc (N), M.Phil (N)., Ph.D (N)., Ph.D (HDFS)., M.B.A (HM).,**

Principal cum Professor,

Apollo College of Nursing,

Chennai- 600 095.

**2. Dr. Lizy Sonia.**

**M.Sc (N)., Ph.D (N).,**

Vice Principal and HOD of Medical Surgical Nursing,

Apollo College of Nursing,

Chennai-600 095.

**3. Dr. Muthu Kumar P**

**MBBS, M.D (Pediatric)., DM (Neurology).,**

Consultant Neurology

Apollo Speciality Hospital

Chennai-600 095.

**4. Dr. Vijayalakshmi. K, M.Sc (N)., Ph.D (N)., M.A (Psychology).,**

Professor in Psychiatric Nursing,

Apollo College of Nursing,

Chennai- 600 095.

**5. Mrs. Jaslina G., M.Sc (N).,**

Reader in Medical Surgical Nursing,

Apollo College of Nursing,

Chennai- 600 095.

**6. Mrs. Sashikala D, M.Sc (N).,**

Lecturer in Medical Surgical Nursing,

Apollo College of Nursing,

Chennai- 600 095.

**7. Mrs. Kanchana G, M.Sc (N).,**

Lecturer in Medical Surgical Nursing,

Apollo College of Nursing,

Chennai- 600 095.

**8. Mrs. Merlin A, M.Sc (N).,**

Lecturer in Medical Surgical Nursing,

Apollo College of Nursing,

Chennai- 600 095.

**APPENDIX V**  
**CERTIFICATE FOR CONTENT VALIDITY**  
**TO WHOMSOEVER IT MAY CONCERN**

This is to certify that tools and content for the research study developed by II year M.Sc (Nursing) student of Apollo College of Nursing for her dissertation **“An Experimental Study to assess the Effectiveness of Communication Board on the Communication Process among Aphasic Patients at Selected Hospitals, Chennai.”** validated.



**Signature of the Expert**

J. JASLINA GNANARANI



**APPENDIX VI**  
**RESEARCH PARTICIPANT CONSENT FORM**

Dear participant,

I am a M.Sc. (N) student of Apollo College of Nursing, Chennai. As a part of my study, a research on **“An Experimental Study to assess the Effectiveness of Communication Board on the Communication Process among Aphasic Patients at Selected Hospitals, Chennai.”** is selected to be conducted. The finding of the study will be helpful for improvement of communication process among aphasic patients.

I hereby seek your consent and co-operation to participate in the study. Please be frank & honest in your responses. The information collected will be kept confidential and anonymity will be obtained.

**Signature of the Investigator**

I.....hereby consent to participate in the study.

Place:

Date:

**Signature of Participant**

## APPENDIX VII

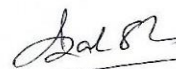
### CERTIFICATE FOR ENGLISH EDITING

#### CERTIFICATE FOR ENGLISH EDITING

#### TO WHOMSOEVER IT MAY CONCERN

This is to certify that the dissertation “An experimental study to assess the effectiveness of communication board on the communication process among aphasic patients at selected hospital, Chennai.” by Ms. Rimi Sarkar II year M.Sc (N) student, Apollo College of Nursing, was edited for English language appropriateness.

**Prof. J.L. NARASIMHAN**  
New No.8, Second Main Road,  
Block B - F1, Krishna Nagar,  
Chromepet, Chennai-600 044.  
Cell : 94446 54720  
e-mail : profjln@yahoo.com



Name and Signature

## APPENDIX VIII

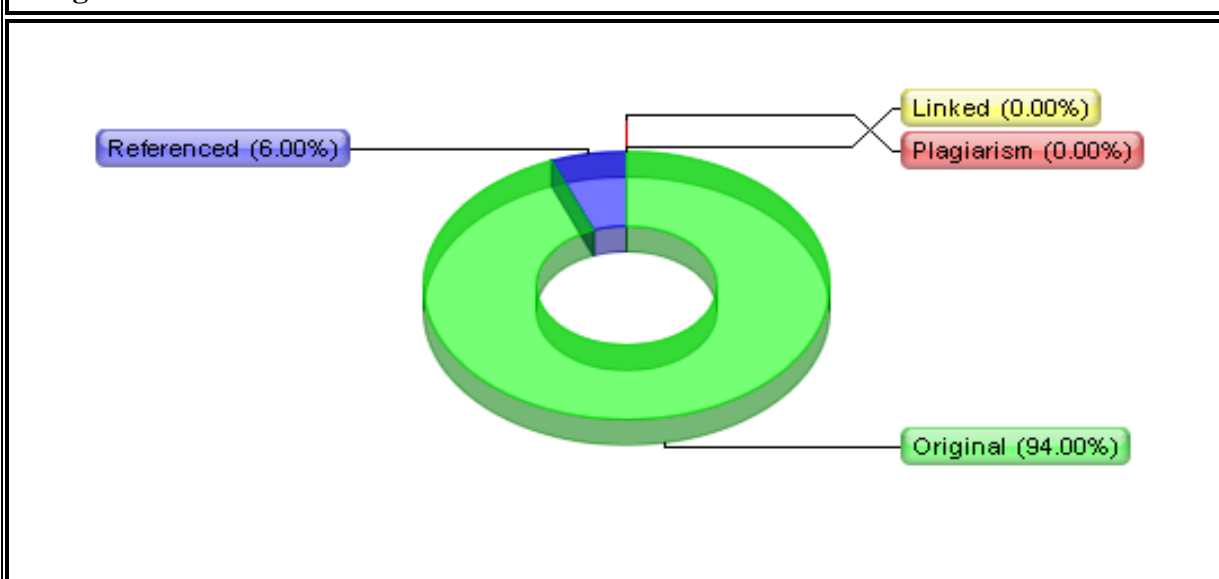
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**APPENDIX IX**

**DEMOGRAPHIC VARIABLE PROFORMA OF APHASIC PATIENTS**

**ON COMMUNICATION PROCESS**

**Purpose**

The proforma is used to measure the demographic variables such as age, sex, level of education, occupation, diagnosis, surgery, discharge and sedation used etc.

**Instruction**

The researcher will be collecting the information by interviewing the patients relative and by referring the hospital records. Please be frank in your response.

**Sample No.**

- |                       |                      |
|-----------------------|----------------------|
| 1. Age in year        | <input type="text"/> |
| 2. Sex                |                      |
| a) Male               | <input type="text"/> |
| b) Female             | <input type="text"/> |
| 3. Educational status |                      |
| a) Illiterate         | <input type="text"/> |
| b) High School        | <input type="text"/> |
| c) Higher Secondary   | <input type="text"/> |
| d) Graduate           | <input type="text"/> |

**APPENDIX X**

**CLINICAL VARIABLE PROFORMA OF APHASIC PATIENTS**

**ON COMMUNICATION PROCESS**

**Purpose**

The proforma is used to measure the demographic variables such as cause of aphasia, surgery done or not, no of days hospitalized, sedation used, GCS level of the patients.

**Instruction**

The researcher will be collecting the information by interviewing the patients relative and by referring the hospital records. Please be frank in your response.

**Sample No:**

**1) Cause of aphasia**

a) Stroke

b) Trauma

c) Neurological disorder

d) Presence of ET tube

e) Any other cause

**2) Surgery**

a) Yes

b) No

**3) Sedation used**

a) Yes

b) No

**4) GCS level of the patient**

a) <8

b) Between 8 to 12

c) >12

**BLUE PRINT ON OBSERVATION CHECKLIST ON  
COMMUNICATION PROCESS**

<b>SL. NO</b>	<b>CONTENT</b>	<b>ITEMS</b>	<b>TOTAL ITEMS</b>	<b>SCORE</b>	<b>PERCENTAGE</b>
1.	Sender	1, 7, 14, 15	4	8	20%
2.	Receiver	3, 4, 19	3	6	15%
3.	Message	2, 6, 11, 12, 13	5	10	25%
4.	Channel	16, 17, 18	3	6	15%
5.	Feedback	5, 8, 10, 9, 20	5	10	25%
<b>TOTAL</b>			<b>20</b>	<b>40</b>	<b>100%</b>

**APPENDIX XI**

**OBSERVATION RATING SCALE ON COMMUNICATION PROCESS**

**FOR APHASIC PATIENTS**

**Purpose**

This observational rating scale is designed to assess the communication process of aphasic patients.

**Instruction**

The researcher will be using this tool, in this rating scale the observation have 20 items with 3 response and the observed behavior will be marked as a tick.

Sl. No	Items	Done	Partially done	Not done
1.	Draw the attention of others			
2.	Is able to follow commands			
3.	Has difficulty in communication			
4.	Maintains eye contact			
5.	Cooperates with the receiver			
6.	Communicates the difficulties			
7.	Listens to the subject			
8.	Acknowledges the message by nodding head or by other methods.			
9.	Provide information on procedures in first attempt itself			
10.	Able to elicit immediate response to the subject			



11.	Action is consistent with the message			
12.	Conveyed the needs of the subject			
13.	Conveyed the problem of the subject			
14.	Conveyed the same message repeatedly			
15.	Conveyed messages are clear in first attempt			
16.	Conveys by gesturing			
17.	Conveys by mouthing word			
18.	Conveys by writing			
19.	Subject shows approval to the responses by nodding head or by other method			
20.	The subjects facial expression suggest the same message which he intended to convey			

<b>Scores</b>	<b>percentage</b>	<b>Levels of Communication Process</b>
<20	<50	Inadequate Communication Process
20-30	50-75	Moderately Adequate Communication Process
>30	>75	Adequate Communication Process

## APPENDIX XII

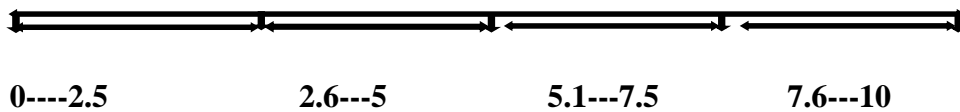
### ASSESSMENT OF THE APHASIC PATIENTS LEVEL OF SATISFACTION AFTER USE OF COMMUNICATION BOARD BY COMBINED NUMERICAL AND CATEGORICAL RATING SCALE

#### Purpose

The scale used by the researcher to know the level of satisfaction on communication process among aphasic patients.

#### Instructions

Please indicate your level of satisfaction. This response will be kept confidentially.



Highly Dissatisfied	Dissatisfied	Satisfied	Highly Satisfied
------------------------	--------------	-----------	------------------

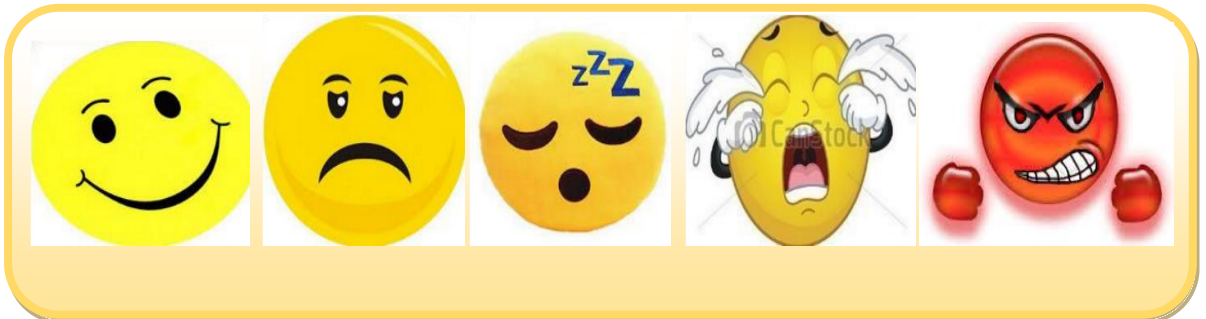
#### Score Interpretation

Highly Dissatisfied	0 – 2.5
Dissatisfied	2.6 – 5
Satisfied	5.1 – 7.5
Highly Satisfied	7.6 – 10

## APPENDIX XII

### COMMUNICATION BOARD

#### I AM FEELING







#### I WANT TO MEET




#### I AM




POINT OUT THE PICTURE AS PER YOUR NEED







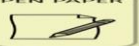
**Thank You**

YES 

NO 

**Please keep trying**


NOT SURE 



PEN PAPER 


1	2	3
4	5	6
7	8	9
0		


A	B	C	D	E	F	G	H	I
J	K	L	M	N	O	P	Q	R
S	T	U	V	W	X	Y	Z	


POINT OUT THE AREA AND LEVEL OF PAIN







?

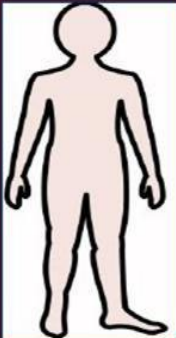










































No Pain
Moderate Pain
Worst Pain

0	1	2	3	4	5	6	7	8	9	10
---	---	---	---	---	---	---	---	---	---	----

0
2
4
6
8
10

# ANNENDIX XIII

## MASTER CODE SHEET – CONTROL GROUP

Demographic variables			Clinical variables				Com process	
Age	Gender	Educational status	Cause of aphasia	Surgery	Seda use	GCS level	Pre test	Post test
b	a	c	d	a	b	b	8	9
c	b	b	b	b	a	b	3	3
a	a	c	b	b	b	b	5	6
b	b	a	d	b	b	b	4	7
a	a	c	a	b	b	c	9	9
d	a	d	d	b	a	b	7	7
c	a	a	e	a	a	b	5	7
b	b	b	e	b	b	c	12	12
a	a	b	b	b	b	c	19	20
b	a	c	e	b	b	c	10	11
d	a	d	b	b	b	b	6	9
b	a	c	d	b	b	c	11	11
a	b	a	d	a	a	b	8	10
a	a	b	b	a	b	c	13	13
c	b	d	b	b	b	c	7	7
c	a	c	c	b	b	b	5	9
c	a	b	d	a	b	c	9	10
c	a	d	d	b	a	c	11	13
d	b	d	e	b	b	c	21	21
a	a	c	e	a	b	c	19	20
a	a	b	d	b	b	b	7	8
b	b	d	d	a	a	b	5	7
a	b	c	e	b	b	b	6	7
b	a	b	d	b	a	b	8	8
a	b	d	b	b	b	b	7	9
a	b	c	b	b	b	c	22	23
c	a	c	a	b	b	c	9	11
a	a	b	d	b	a	b	7	7
a	a	c	e	b	b	c	10	12
c	b	d	c	b	b	c	11	11

## MASTER CODE SHEET – EXPERIMENTAL GROUP

Demographic variables			Clinical variables				Com process	
Age	Gender	Educational status	Cause of aphasia	Surgery	Sedation used	GCS	Pretest	Posttest
b	a	c	d	a	b	b	4	25
c	b	b	b	b	a	b	7	31
a	a	c	b	b	b	b	5	18
b	b	a	d	b	b	b	4	32
a	a	c	a	b	b	c	6	24
d	a	d	d	b	a	b	6	19
c	a	a	e	a	a	b	13	29
b	b	b	e	b	b	c	5	20
a	a	b	b	b	b	c	4	29
b	a	c	e	b	b	c	18	34
d	a	d	b	b	b	b	6	39
b	a	c	d	b	b	c	10	35
a	b	a	d	a	a	b	7	28
a	a	b	b	a	b	c	8	23
c	b	d	b	b	b	c	12	25
c	a	c	c	b	b	b	7	24
c	a	b	d	a	b	c	13	31
c	a	d	d	b	a	c	3	18
d	b	d	e	b	b	c	4	23
a	a	c	e	a	b	c	9	27
a	a	b	d	b	b	b	12	33
b	b	d	d	a	a	b	5	26
a	b	c	e	b	b	b	8	36
b	a	b	d	b	a	b	10	26
a	b	d	b	b	b	b	13	29
a	b	c	b	b	b	c	7	17
b	a	c	a	b	b	c	9	28
a	a	b	d	b	a	b	13	22
a	a	c	e	b	b	c	6	29
c	b	d	c	b	b	c	5	31

**APENDIX XIV**

**PHOTOGRAPHY**







## CHAPTER –I

### INTRODUCTION

#### Background of the study

*“Today Opportunity Erase Yesterday Failures”*

- **Gene Brown**

Human being are always excited to meet new person, appear approachable to others and acquaintances, and are the kind of person who can just start chatting to a person on a working place, in line at the drug store, or when we are stuck on the bus. Being interactive is about making ourselves feel comfortable in our orbit like we actually like talking to them. We don't have to give every person we see a huge grin to be friendlier. However, making a goal to smile at least 30% more on a daily basis, whether we are smiling at people we know, complete strangers, or acquaintances who cross our path, smiling will make us look like much more approachable, friendly person. (Karin, 2012)

Communication is a process of sharing information through exchange of messages, thoughts by speech, visuals, signals, writing or behavior. Communication is an integral part of health care settings. It is important in nursing practice since all nursing care involves some degree of information. Communication is an essential component of effective care in the intensive care unit, where patient can experience communication difficulties due to their critical illness. The communication breakdown between patient and nurse has led to increase in patient pain, misdiagnosis, drug treatment errors, extension in hospital stay and even death.

Communication is the act of transferring information from one place to another. It is the two way process of reaching mutual understanding, in which participants not only

exchange information, news, ideas and feelings but also create and share meaning. In general communication is a means of connecting people or place. It is the key of any organization, an organization cannot operate without communication between levels, departments and employees.

Aphasia came from a Greek word Apathos meaning speechless. Aphasia refers to inability to comprehend and formulate language because of dysfunction in specific brain regions. Aphasia can cause impairment in speech and language modalities. The term aphasia implies that one or more communication modalities have been damaged and therefore functioning incorrectly. Aphasia does not refer to damage to the brain that results in motor or sensory deficits, as it is not related to speech but rather the individual's language. (Frymark et al., 2014)

Communication boards are both augmentative and alternative communication devices. That means these are used to supplement or replace spoken language as a means of communication. Boards can be as simple as a laminated piece of paper or as complex as an electronic board with an electronic voice which speaks for the user.

Nurses and other health care practitioners are using nonverbal form of communication such as mouthing, gesticulating, nodding, and writing in communicating with the aphasic patients. Such nonverbal methods require excess energy and fatiguing and emotionally draining for these patients. The use of board as an intervention to enhance communication has been proposed by health care practitioners, Martenson and Fridlund (2002).

Dickerson et al. (2002) confirm that patient's inability to communicate results in unrecognized pain, feelings of loss of control, depersonalization, anxiety, fear, distress and frustration. It is observed that the patient normally tends to communicate of their needs and problem, and any kind of inability in the communication process will naturally lead them into the sense of uneasiness.

Lui et al. (2008) conducted a descriptive correlational study in Taiwan among 80 intubated patients from surgical ICU in order to investigate the primary needs and communication difficulties of intubated patients in surgical intensive care unit and identify predictors of primary needs from patient characteristics and communication difficulties. The patients were interviewed using three structured questionnaires which included demographic information, scale of basic needs and scale of Communication difficulties. The result was that intubated patients were found to have communication difficulties. There was positive correlation between communication difficulties and general level of basic needs with  $r=0.53$ ,  $p<0.01$  and there was also positive correlation found between the length of stay in ICU and the need for love and belonging with  $r=0.25$ ,  $p<0.03$ .

The nursing staff needs improved communication skills in communicating with the critically ill patients as suggested by Ben-Ami-Lozover and Benbassat. He also confirms that there is evidence that the judicious use of communication techniques may improve patient's satisfaction, reduce anxiety, and reduce duration of treatment.

Williams presented an algorithm for selecting a communication technique use with patients during mechanical ventilation that included various type of boards. Therefore, alternative form of communication enhances the communication process which in turn minimizes patient's frustration level.

## **Need for the Study**

There are many people in a hospital situation who are suffering from speech related challenges such as aphasia, dysarthria or Apraxia. Others may be unable to speak because they are intubated, have a hearing related deficit, vocal injury or degenerative disease. Many individuals have cognitive deficits due to head injury, dementia or effects from medications.

The Joint Commission on Accreditation in Health care Organizations (JCAHO) placed communication at the top list of the cause of sentinel events in hospitals although there are many kinds of simple tools that can efficiently improve communication between patients and caregivers, these tools are not used and ignored in most of the health care settings, so that communication difficulties encountered with aphasic patients. Those patients have difficulty in expressing their needs that leads to dissatisfaction and feeling of negativism.

Hospitals and healthcare facilities throughout USA, Canada, United Kingdom, Australia and India including more than 1000 in the U.S. alone rely upon the communication board to reduce patient frustration and help to regulate pain and anxiety medications, thus increasing patients' overall satisfaction with healthcare. (Beth Morrissey, 2015)

Happ et al. (2011) reported that 40% intubated patients had interaction with nurses and they described the process of Communication was extremely difficult. Further the process of conveying information about pain was also unsuccessful. Researchers have pointed out various barriers in nurses communication with aphasic patients, lack of nurses

education on communication, increased workload and nurses perceived insecurities. Therefore it is imperative to have a means for communication among these patients' populations. These include the use of verbal and non-verbal language. There are devices such as pencil and paper, magic slates, alphabet board and flash cards which are less used. There are also sophisticated techniques like scanning, spelling board, letter board, talk software and pocket talker.

But there is a simple, versatile and inexpensive communication device that enables the patients to communicate a variety of emotions and needs by just pointing out the pictures in the Vidatak communication board. Patak (1998) developed the Vidatak Board and he has sold more than 100,000 communication board to nearly 1,000 hospitals nationwide.

However there is paucity of studies in this area especially in India. Hence the investigator have undertaken this study to assess the effect of communication board on communication process among aphasic patients.

### **Statement of the Problem**

An Experimental Study to Assess the Effectiveness of Communication Board on the Communication Process among Aphasic Patients at Selected Hospitals, Chennai.

### **Objectives of the Study**

1. To assess the level of communication before and after use of communication board among the control and the experimental group of aphasic patients.

2. To determine the effectiveness of communication board on communication process by comparing the communication process between the control and the experimental groups of aphasic patients.
3. To assess the level of satisfaction regarding communication board in the experimental group of aphasic patients.
4. To determine the association between selected demographic variables and the level of communication among the control and the experimental group of aphasic patients.
5. To determine the association between selected clinical variables and the level of communication among the control and the experimental group of aphasic patients.

### **Assumptions**

The study assumes that

- Aphasic patients have difficulty in communicating their needs.
- Communication board helps to improve the communication pattern among aphasic patients.
- Use of planned communication techniques may improve patient's satisfaction, reduce anxiety and reduce duration of treatment.

### **Conceptual and Operational Definitions**

#### **Communication process**

The communication process is the process by which meaningful information between two or more people with the goal of the receiver understanding the sender's intended message.

In this study it refers to a process by which information will be exchanged between individual through a common system of symbols, sign or behavior.

### **Communication board**

Any device with letter, pictures or words that helps patients with impaired physical and verbal ability to express themselves. (Medical dictionary)

In this study it refers to a board which contains symbol, number, and letters which is useful for communication process for patients who are suffering from aphasia.

### **Aphasia**

Aphasia is an impairment of language, affecting the production or comprehension of speech and the ability to read or write. (National Aphasia Association)

In this study it refers to a condition characterized by partial or total loss of the ability to communicate verbally or using written words by the patients admitted in selected hospitals, Chennai.

### **Effectiveness**

It is the degree to which something is successful in producing a desired results or success.

In this study it refers to the usefulness of the communication board in meeting the communication needs of the aphasic patients.

### **Null Hypothesis**

**H<sub>0</sub>1:** There will be no significant difference in the communication process between the control and the experimental group of aphasic patients before and after using communication board.

**H<sub>0</sub>2:** There will be no significant association between the communication process and demographic variables in the control and experimental group of aphasic patients.

**H<sub>0</sub>3:** There will be no significant association between the communication process and clinical variables in the control and the experimental group of aphasic patients.

### **Delimitation**

- The study was limited to all aphasic patients admitted in selected hospital, Chennai
- The study was limited to all patients aged 20 years and above.
- The study was limited to 6 weeks only.

### **Conceptual Framework of the study**

The conceptual framework deals with the inter-related concepts that are assessable together in some rational schemes by virtue of their relevance to a common theme. (Polit and Beck, 2016).

The conceptual frame work of present study is based on Kings Goal attainment model 1981. According to Imogene King, nursing is defined as a process of action, reaction, whereby nurses and clients share information about their perception. Through perception and communication they identify the problems for which they set goal and take necessary action.

King's Goal Attainment theory is based on the concepts of personal, interpersonal and social system including perception, judgment, action, reaction, interaction and transaction.



**Perception**

A person imports energy from the environment and transforms, process and stores it. The study assumes that there is interpersonal relationship between nurse and the patient. The nurse investigator perceives that there is a need for alternative method of communication for aphasic patient. This imposes a demand for communication board.

**Judgment**

Analyze the area of action to be carried out. Thus, the nurse investigator analyzed the need for communication board and decided to implement communication board in meeting the communication needs of the aphasic patients. The patients are also analyzed the need for alternative method of communication to communicate.

**Action**

Individual export the perceived energy as demonstrated by observable behavior by taking mental or physical action. In this study the nurse investigator takes necessary step to implement communication board. The patients who are in experimental group plans to use communication board.

**Reaction**

Reaction means developing action and action on perceiving choices for goal attainment. The action of both the nurse investigator and participants will lead to reaction. The nurse investigator makes necessary arrangement to introduce the communication board to the experimental group and the participant acquires information present in the communication board.

**Interaction**

Interaction refers to verbal and nonverbal behavior between an individual and the environment or among two or more individuals. It involves goal directed communication. Action leads to interaction where the nurse investigator implements the communication board and the participants in the experimental group use the communication board for communication, whereas the participants in the control group uses the existing method of communication.

**Transaction**

Imogene King believed that transaction is the mutually defined goals of two or more individual and the means to achieve them. They reach an agreement about how to attain these goals and then set about to realize them. Thus, the nurse investigator and the participants mutually set a goal to improve the communication process when intubated.

**Feedback**

The outcome may be either a satisfactory or an unsatisfactory communication process. Satisfactory improvement indicates that the communication board is effective and unsatisfactory improvement in communication process leads to rearrangement of prior situation by the nurse investigator, where the whole process is recycled. This is not included in the study by the investigator.

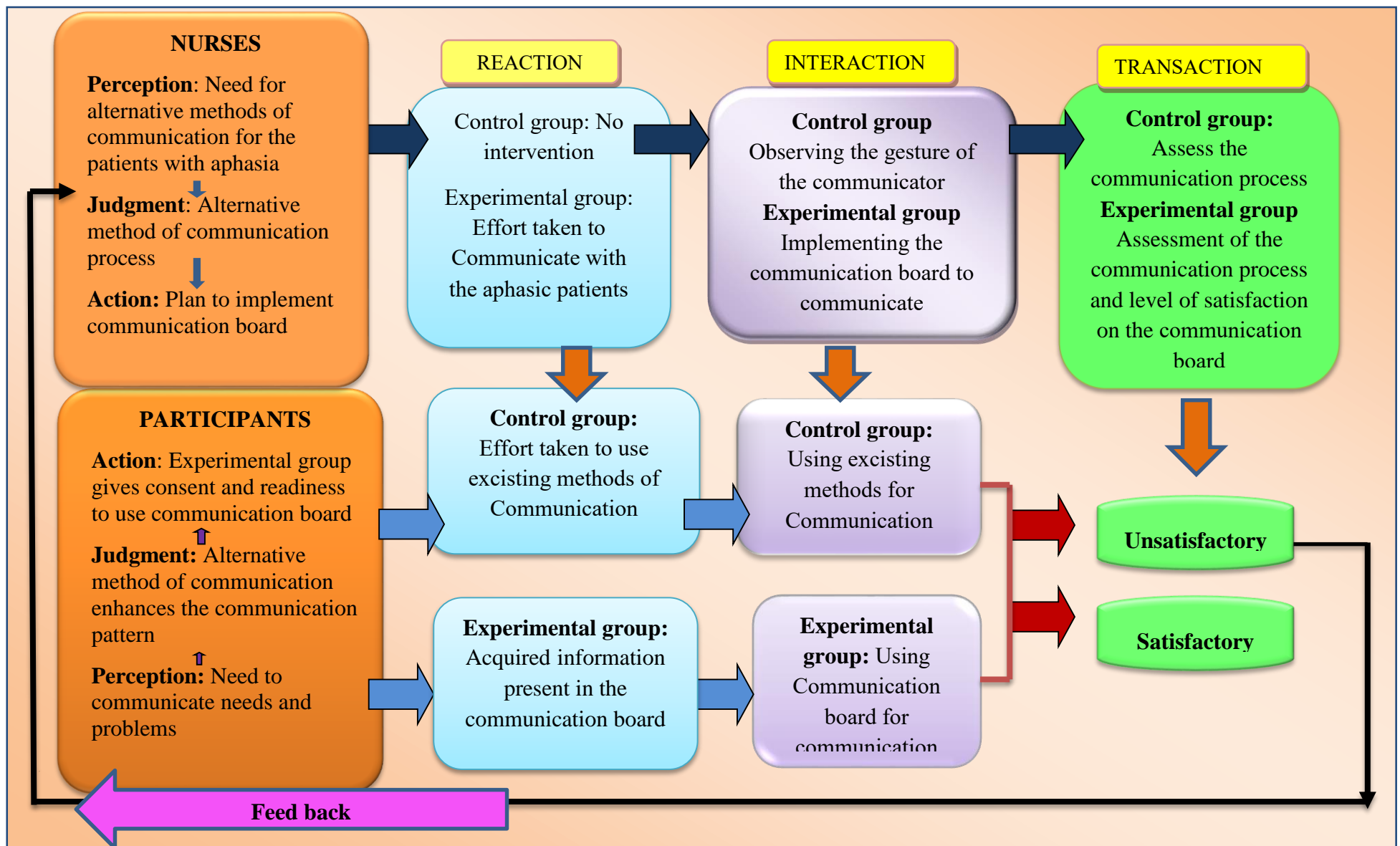


Fig.1. Conceptual Framework Based on King Goal Attainment Model (1981)

## **Projected Outcome**

The study will be helpful in obtaining evidence on difficulties in communication process for the aphasic patients and need for communication board.

## **Summary**

This chapter has dealt with background of the study, need for the study, statement of the problem, objectives of the study, assumptions, operational definition, null hypothesis, inclusion and exclusion criteria and conceptual framework.

## **Organization of the Report**

Further aspects of the study are presented in the following chapters,

- CHAPTER-II** : Review of literature is presented.
- CHAPTER-III** : Research methodology is presented which includes research design, setting, population, sample, and sampling technique, data collection, tool description, validation and reliability of tools, pilot study, data collection procedures, and plan for data analysis.
- CHAPTER-IV** : Analysis and interpretation of data is presented on terms of descriptive and inferential statistics.
- CHAPTER-V** : Discussion
- CHAPTER-VI** : Summary, Discussion, Conclusion, Implications, Recommendations and limitations.

## **CHAPTER II**

### **REVIEW OF LITERATURE**

A literature review involves the systematic identification, location, scrutiny and summary and written materials that contain information on the research problem (Polit & Beck, 2016). The task of reviewing literature involves the identification, selection, critical analysis and reporting of existing information on the topic of interest.

A review acquaints the researcher with what has been done in the field and it minimizes possibilities of unintentional duplications. It justifies the need for replication provides the basis of future investigations and help to relate the findings of one study to another.

This chapter deals with a review of published and unpublished research studies and from related material for the present study. The review helped the investigator to develop an insight into the problem area. This helped the investigator in building the foundation of the study.

The review of literature in this chapter is presented under the following headings.

- Communication difficulties among aphasic patients
- Communication board among aphasic patients

#### **Communication difficulties among aphasic patients.**

A study was conducted to evaluate the activation of bilateral cortices in patients with Broca's aphasia 1 to 3 months after stroke by Qiu et al. (2017). Blood oxygenation level-dependent functional magnetic resonance imaging was used in the study. The results suggest that the right inferior frontal gyrus plays a role in the recovery of language

function in the subacute stage of stroke related aphasia by increasing the engagement of related brain areas.

In a prospective study carried out by Koleček et al. (2017) to assess the change and dynamic processes over time between severity of aphasia and functional autonomy and to examine the temporal relationships between functional autonomy, depressive mood and quality of life in stroke patients with aphasia. The result showed a slight improvement in language impairment (stability coefficient = 0.61,  $p < 0.001$ ) and a moderate improvement in functional autonomy (stability coefficient = 0.44,  $p < 0.001$ ).

Prospective, multicentric cohort study on communication disability in stroke patients with aphasia conducted by Mazaux et al. (2013). A total of 164 patients were included. Among the 100 survivors assessed at follow-up, 24% had severe aphasia, 12% moderate aphasia and 64% mild aphasia according to the Boston diagnostic aphasia examination severity score. Patients mainly reported difficulties in conversation with strangers or on abstract topics, using a phone, reading and writing administrative documents, dealing with money and outdoor communication activities. The findings showed that age, gender, education level, residence status and type of stroke had no influence on communication activity.

A descriptive study was conducted by Nakayama et al. (2013) on predictors of communication impairment in ALS tracheostomy ventilator users. 76 patients with amyotrophic lateral sclerosis (ALS) using tracheostomy ventilation were classified into the three groups. Patients capable of communication in stage I, patients with difficulties in communication in stage II to IV, and patients incapable of communication in stage V. It showed that the duration from onset to the time of ventilator use and complete quadriplegia had significant effect on the progression from stage I to II, and that the

duration from onset to the development of overt oculomotor limitation had significant effect on the progression from stage IV to V. Faster progression may predict the extent of communication impairment after ventilator use.

Moreaud et al. (2010) conducted a study on Aphasia in elderly patients. They found that Aphasia is common in elderly patients in the context of vascular or neurodegenerative disorders. In some cases aphasia were occurring suddenly after a stroke, or developing progressively as a primary progressive aphasia. A complete evaluation of language, cognitive functions, psychopathology and behavior is very helpful, as are neuroimaging techniques. A good knowledge of classical aphasic pictures associated with stroke, Alzheimer disease or related disorders, is highly recommended.

A prospective longitudinal study was conducted by Bakheit et al. (2007) on examination of the rate and extent of improvement from the different types of aphasia in the first year after stroke. The sample comprises of 75 aphasic patients who confront stroke for the first time. It was found that the median percentage increase in the Western Aphasia Battery, aphasia quotient was higher in patients with Broca's aphasia in comparison with the other groups at all weeks. Patients suffering from Wernicke's aphasia had a significantly greater median percentage increase in their aphasia quotient than those with conduction and anomic aphasia at weeks 12 and 24.

A study was conducted to explore the relationship between intensity of aphasia therapy and aphasia recovery by Sanjit et al. (2003). Intensity of therapy was recorded in terms of length of therapy, hours of therapy provided per week, and total hours of therapy provided. The total length of time for therapy was found to be inversely correlated with hours of therapy provided per week ( $p=0.003$ ) and total hours of therapy provided

( $p=0.001$ ). Findings shows that intense therapy over a short amount of time can augment results of speech and language therapy for stroke patients with aphasia.

A retrospective study to find out whether chronic aphasia patients were benefitted from a very intensive therapeutic regime by Basso et al. (2003). 100 aphasic subjects were chosen, on a daily basis of 2–3 hours of homework with the help of a family member, they were supervised and controlled by the speech therapist. Results for 23 chronic aphasic subjects were reported. All subjects had undergone previous therapy and 10 had been dismissed because no further recovery was expected. Recovery was significant in oral and written nouns and actions naming, oral and written sentence production and Token Test scores. Only 4 subjects did not improve. Hence it was concluded that recovery was due to the intense work done.

Melles (2001) conducted a study in which a magic state was used in an attempt to improve communication for clients with tracheostomies. 15 clients were asked to evaluate the effectiveness of a slate as a communication tool. The results showed that 73% of the clients felt the tool was appropriate for their condition, 86% felt that it facilitate communication with the health care team and the slate was accepted by 96% of the clients.

A study was conducted by Johansson (2001) regarding patient experience of communication problem during ventilator treatment. 22 patients treated in ICU were interviewed 3 times over a 3 months period. 13 patients reported that RN's were able to understand their needs, wishes during ventilator whereas RN's reported functional communication in 19 patients. A functional communication was related to use of effective communication methods, while a lack of communication was associated with medical status of patients. The result suggests the need for detailed examination of patients



potential for effective communication, and further investigation of devices that can help facilitate communication between RN's and patients during ventilator treatment.

### **Communication board among aphasic patients**

Dorwin (2016) conducted a quasi-experimental study among patients on mechanical ventilator in Bombay hospital at Indore to assess the effectiveness of communication board on the level of satisfaction of communication pattern. Non-probability convenient sampling was used as sampling technique and 20 patients were selected. The effectiveness of communication pattern in mechanical ventilator patient was tested in terms of level of satisfaction in communication.

A study carried out by Sasmita et al. (2015) on the communication pattern and level of satisfaction among 60 mechanically ventilated patients in a multispecialty Hospital by non probability purposive sampling technique. The technique used for data collection was interview Performa for demographic data. It was found that the SD of posttest 2.51 is less than SD of pretest 2.55 which indicates that the group is more homogenous in posttest and marked improvement in satisfaction level in posttest than pretest. The calculated r value is 0.25 before using communication board and 0.29 after using communication board indicates high significant relationship between communication pattern and level of satisfaction of the patients with mechanical ventilator. The findings showed that 60% patients admitted on mechanical ventilator had poor communication pattern and thus frustrated.

Rinta (2013) conducted a study to develop a communication board to identify the needs of patients on a mechanical ventilator post-coronary artery bypass grafting. By convenient sampling technique 30 post coronary artery bypass grafting patients were selected and data was collected through interview method pertaining to their needs and

problems when they were mechanically ventilated. The study reported that change in position and pain were major needs they wanted to communicate. Other problems reported were thirst, dry mouth, and inability to sleep, choking sensation and feeling itchy. Based on the needs of the patients on ventilator, a pictorial communication board was developed and included that this was an appropriate intervention technique used for intubated patients.

A qualitative study was conducted by Iacono et al. (2013) on experiences of adults with complex communication needs receiving and using low tech AAC. Fifteen adults aged 21-74 years, with complex communication needs associated with developmental (10 adults) or acquired disabilities (5 adults) who received NECAS aids, and 12 support people participated. Interviews provided data for thematic analysis. In order to implement best practice, AAC provision of low- and/or high-tech options must be driven by individual needs rather than service limitations and the benefits of access to various low- and high-tech AAC options to address needs and preferences were demonstrated.

A study was conducted by Tsai (2013) on Adults' preferences between Picture Communication Symbols (PCSs) and Gus Communication Symbols (GCSs) used in AAC. A total of 56 participants participated in the study, including 15 participants in ages 20-35, 14 participants in ages 36-50, 13 participants in ages 51-60 and 14 participants in ages 66-80. The results of this study suggest typical adults' preference between PCSs and GCSs did not show any significant difference, the effect of age groups of typical adults did not have any significant effect on their preference between PCSs and GCSs. However, except the group of ages 51-65, the other three groups did consciously show their preferences for PCSs.

A descriptive observational study to describe nurse-patient communication in a medical and cardiothoracic surgical intensive care unit, was conducted by Happ et al. (2011) University of Pittsburg, Pennsylvania. Data was collected by video recorded interaction between 10 randomly selected nurses and 30 critically ill, conscious, responsive intubated patients by convenient sampling. The results showed that nurses initiated (86.2%) of the communication exchanges and ( $\geq 70\%$ ) communication exchanges were successful. But more than one third (37.7%) of communication about pain were unsuccessful and patients reported 40% of the communication sessions with nurses was extremely difficult.

Manheim et al. (2009) conducted a study on patient reported changes in communication after computer-based script training designed to improve conversational skills in adults with aphasia. It was found that the intervention resulted in a statistically and clinically significant decrease of 6.79 points at  $p=.038$  in the CD subscale of the BOSS during the intervention, maintained during the follow-up period.

Annie (2009) conducted a study on the effectiveness of the communication board against the usual methods of communication used by the mechanically ventilated patients in Apollo hospitals, Chennai. An experimental control trial of sixty patients were randomly selected to use the Vidatak Board. The result of this study reported that 73% patients without the use of the communication board found their communication process was inadequate. However with the board 80% found their communication was adequate. Of those who used the communication board, 80% were satisfied with the board, 20% moderately satisfied and none reported unsatisfied. Nurses reported 53% satisfied 30% moderate satisfaction and 17% unsatisfied. Overall, the patients with the vidatak board

reported higher satisfaction with communication at  $p < 0.001$  and this was correlated to their satisfaction with the communication board at  $p < 0.01$  level of significance.

A systematic review was carried out by Finke et al. (2008) regarding communication between nurses and patients with complex communication needs (CCN). Efficacious nurse patient communication is critical to efficient care provision. It was found that the communication between nurse and patient was too difficult.

A study was conducted by Johnson (2008) on functional communication in individuals with chronic severe aphasia using augmentative communication. This study examined abilities of three individuals with chronic non-fluent aphasia (NA) using a dynamic display AAC device to enhance communication. Pre and post-treatment measures revealed improvement in quality and effectiveness of communication for all participants. Improved linguistic and cognitive functioning was observed for 2 participants. Results were discussed relative to use of a device with other adults with chronic NA.

Brownlee et al. (2007) conducted a study on the role of augmentative communication devices in the medical management of Amyotrophic lateral sclerosis (ALS). It was found that when an individual has a severe verbal communication impairment, Augmentative and Alternative Communication (AAC) can meet the overall goals of palliative care. AAC can improve quality of life by optimizing function, assisting with decision making, and providing opportunities for personal growth and it is important in the medical management of a person with ALS.

A study on 10 patients with severe communication impairment was conducted by Balandin et al. (2007). The outcome shows that the amount of time that the nurse was

willing to spend attempting to communicate with the patient greatly affected their outcomes. They reported that the nurse did not take the time to listen or look at the patient, and moreover gaining the attention of the nurse was difficult. The study further recommended that nurses become more informed about AAC, and learn how to merge the devices in daily activities so that patient satisfaction can be increased.

Patak et al. (2006) conducted a descriptive study on communication boards in critical care patient's view at University of Los Angeles and California medical center, USA. The study population included twenty nine critically ill patients who were extubated within past 72 hours. Patients reported that their perceived level of frustration with the use of communication board was 29.8% and without use of communication board was 75.8% in communicating their needs. The findings revealed that the communication board, if used appropriately during mechanical ventilation, has been shown to alleviate frustration among intubated patient.

A descriptive study was conducted by Patak et al. (2004) using qualitative and quantitative methods a total of 29 critically ill patients, extubated within the last 72 hours, were included in the study. It was found that 62% of patients reported a high level of frustration in communicating their needs while being mechanically ventilated ( $p < 0.001$ ). It was also found that, there was no significant difference between the duration of intubation and the level of frustration ( $r=0.109$ ,  $p=0.573$ ).

Hemsley et al. (2001), supervised a survey among 50 experienced nurses, in caring for patients with severe communication impairment. The nurses reported a lack of access to AAC devices, and that in service training on AAC devices would be beneficial for their use. The findings also recommend that use of communication board, booklets, and charts can ameliorate the performances of both nurses and patients.

## **Summary**

This chapter had dealt with the review of research literature related to the problem stated. Twenty-five studies were reviewed from primary sources and it has helped the researcher to understand the impact of the problem under study. It has also enabled the investigator to design the study, to develop the tool, to plan for data collection procedure and analyze the data.

## **CHAPTER III**

### **RESEARCH METHODOLOGY**

Research methodology of research study is defined as the way of information from participants is gathered in order to answer the research questions or analyze the research problem. It involves a systematic procedure by which researcher had start from the initial identification of problem to find its conclusion.

This chapter deals with the methodology adopted by the researcher for the study. It includes research approach, research design, sample and sampling technique, development of data collection instruments, method of data collection, pilot study and plan for data analysis. On the whole it gives the general process for gathering and processing the research data. The study was aimed at determining the effectiveness of the board on aphasic patients.

#### **Research Approach**

The appropriate choice of research approach depends on the purpose of the research study which is undertaken. Research approach is the most significant part of the research. According to Polit and Beck (2016), experimental research is an extremely applied form of research involving in finding out how well a programme, practice, or policy is working. Its goal is to assess or evaluate the success of programme.

An experimental research is generally applied where the primary objective is to determine the extent to which a given procedure meets the desired result. In this study the communication process and the level of satisfaction of aphasic patients was assessed. The experimental approach seemed to be most appropriate.

## Research Design

A research design incorporates the most important methodological design that a researcher works in conducting a research study (Polit & Beck, 2016).

In this study Quasi Experimental design was adopted. The researcher assessed the communication process of the aphasic patients by using observation rating for both the control and the experimental group and the independent variable was communication board, which was administered only to the experimental group. The level of satisfaction on communication process was assessed using numerical rating scale for both the experimental group only.

Control group	O1	-	O2
Experimental group	O1	X	O2

**O1** - Pretest on communication process (level of needs met by the aphasic clients in communicating their needs before administering the communication board).

**X** - Administration of the communication board for the experimental group.

**O2** - Posttest on communication process (level of needs met by the aphasic clients and their level of satisfaction in communicating their needs after administering the communication board).



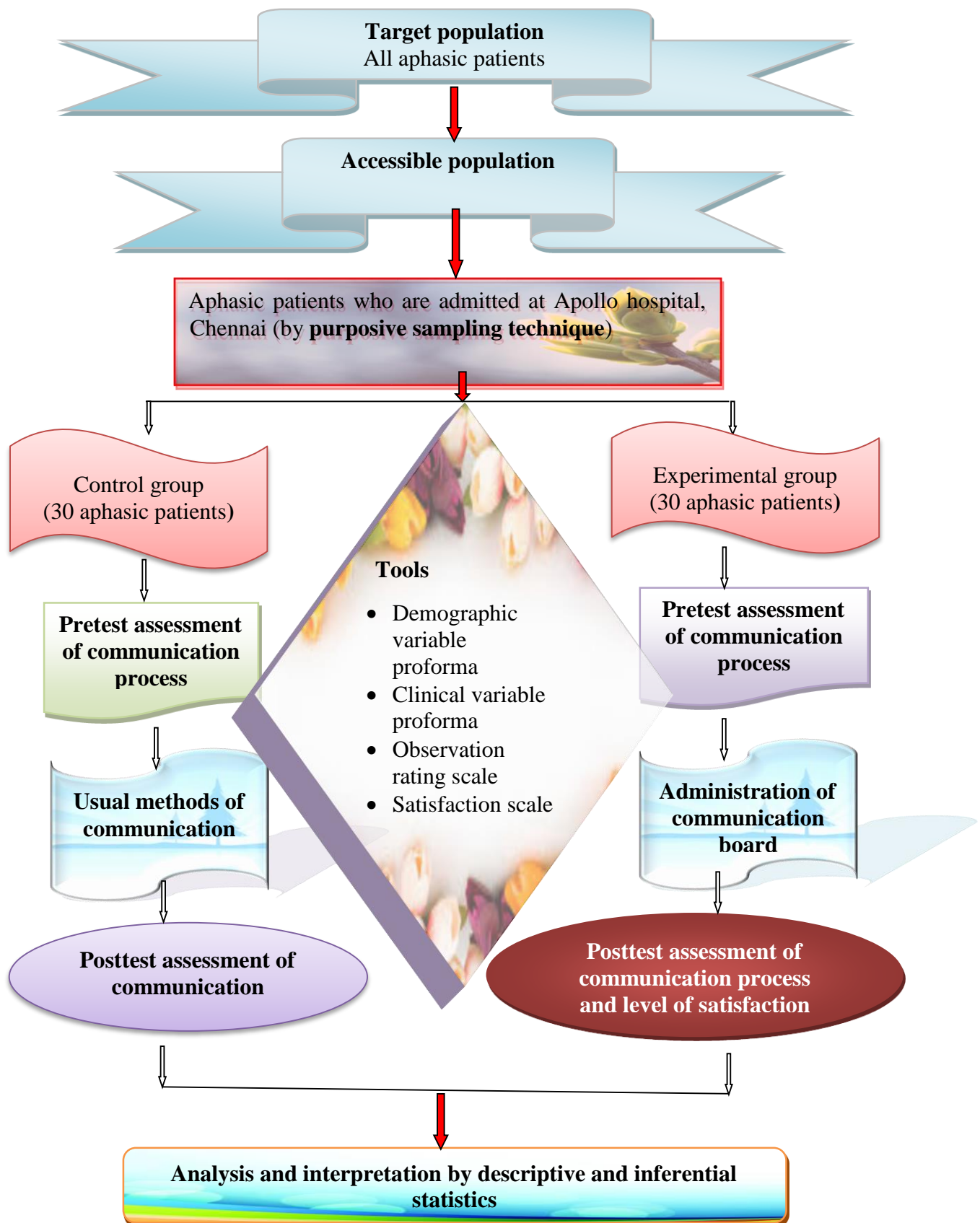


Fig:2. Schematic Representation of Research Design

## **Research Setting**

According to Polit and Beck (2016), setting is the physical location and condition in which data collection takes place in a study.

The study was conducted among the control and the experimental group of aphasic patients selected from CCU, ICU, Tracheostomy ward, stroke ward and all the other area where aphasic patients were available at Apollo Main Hospitals, Greaves Road and Apollo Specialty Hospital, Vanagaram, Chennai. Apollo Main hospital is JCI accredited and has more than 60 departments, spearhead by internationally trained and skillful medical experts, Apollo Specialty Hospital, Vanagaram is a multispeciality hospital mainly focus on Neurology.

## **Variables**

The independent variable is a stimulus or activity that is manipulated or varied by the researcher to create the effect on the dependent variable. In this study the communication board was the independent variable which administered to the aphasic patients.

The dependent variable is the outcome or response due to the effect of independent variable, which researcher wants to predict or explain. In this study communication process of aphasic patient was dependent variable

## **Population**

Population is the entire aggregation of cases which meet designated set of criteria (Polit & Beck, 2016).

**Target population** is group of population that the researcher aims to study and to whom the study findings will be generalized. In this study, the target population were all types of aphasic patients.

**Accessible population** is the list of population that the researcher finds in study area. The accessible population in this study was all aphasic patients who were admitted in Apollo hospitals, Chennai.

### **Sample**

Sample consists of subset of the units that comprises the population. (Polit & Beck, 2016). A sample of 60 patients with aphasia were selected for the study, out of which 30 were assigned to the control group and 30 in the experimental group who received the communication board as intervention.

### **Sample Size**

Polit & Beck (2016) stated that a sample consists of a subset of the units that comprises the population. In this study a sample of 60 aphasic patients were selected, where 30 patients were assigned in control and experimental group respectively.

### **Sampling Technique**

Sampling is the process of selecting a portion of the population to represent study population. Purposive sampling technique was used in this study, in which aphasic patients who were in Apollo Speciality Hospital, Vanagaram were in the control group and aphasic patients selected from Apollo Main Hospital were in the experimental group. The patients who satisfied the inclusion criteria were selected for the study.

## **Criteria for Sample Selection**

### **Inclusion criteria**

- Patients who were aged 20 years and above.
- Patients who were willing to participate in the study.
- Who were able to read and understand English.

### **Exclusive Criteria**

- Patients who were semiconscious, unconscious and confused
- Patients with GCS < 8

## **Selection and Development of Study Instruments**

As the study aimed at evaluating the effectiveness of the communication board on communication process among aphasic patients, the data collection instruments were developed through an extensive review of literature, in consultation with the experts and with the opinion of faculty members. The instrument used in this study were demographic variables proforma, Clinical variables proforma, Observation rating scale to assess communication process and Numerical scale on patient satisfaction.

### **Demographic Variables Proforma**

The proforma is used to measure the demographic variables such as age, gender and educational status etc.

### **Clinical variables Proforma**

The proforma was used to measure the clinical variables such as cause of aphasia, surgery done or not, no of days of hospitalized, sedation used, GCS level of the patients.

## **Rating Scale to Assess Communication Process**

This rating scale was designed to assess the communication process of aphasic patients. There were about 20 items with 3 responses scored as 2 for done, 1 for partially done and 0 for not done. Individual items were totaled to obtain total score. Hence the obtainable score was 40.

### **Scoring interpretation (Rating Scale)**

<b>Scores</b>	<b>Percentage</b>	<b>Level of Communication Process</b>
<20	<50%	Inadequate Communication Process
20—30	50—75%	Moderately Adequate Communication Process
>30	>75%	Adequate Communication Process

## **Assessment of the Aphasic Patients Level of Satisfaction after Using of Communication Board by Combined Numerical and Categorical Scale**

A visual analog scale was used to assess the level of satisfaction of patients who were using communication board. It consists of 10 points where minimum score was 0 and maximum was 10.

### **Score Interpretation**

Highly Dissatisfied	0—2.5
Dissatisfied	2.6—5
Satisfied	5.1—7.5
Highly Satisfied	7.6—10

## **Psychometric Properties of the Study Instruments**

### **Validity**

Content validity refers to the adequacy of the sampling of the domain being studied. The content validity of the tool was obtained by getting opinion from five experts in the field of medical surgical nursing. The validators suggested some specific modifications in the objectives, communication board and observation rating scale. The modifications and suggestions of experts were incorporated in the final version of the tools.

### **Reliability**

Reliability is the degree of consistency with which an instrument measures the attribute it intended to measure (Polit & Beck, 2016). The reliability of the tools were determined by using split half method. ( $r=0.9$ )

## **Intervention Protocol**

The intervention was done from 9 am to 3 pm around 5 patients per day, thus for 60 patients within 2 weeks. Informed consent was obtained from the patients only after detailed explanation about the procedure. The baseline data of demographic variable proforma and clinical variable proforma were collected from the patients. Using purposive sampling technique, 60 patients were selected and assigned to two groups, 30 in the experimental group receiving intervention and 30 in the control group did not receive any intervention.

The researcher assessed the communication process before introduction of Communication board in both the groups by observation rating scale. Communication board was used for aphasic patients. The communication board is any device with letter,

pictures or words that helps patients with impaired physical and verbal ability to express themselves. Patients were explained about the communication board and the components of the communication board. The intervention was administered to the experimental group only for 5 to 7 days. After intervention researcher assessed the communication process of both the groups. Lastly the researcher explained the family members as well as staffs on how to use and when to use the communication board. The researcher assessed the level of satisfaction of patients after the intervention in the experimental group of patients using numeric rating scale.

### **Pilot Study**

Polit & Beck (2016) discussed that pilot study is a miniature of some part of actual study, in which the instrument is administered to the subjects drawn from the same population. It is the small scale version or trail run, done in preparation for the major study. The purpose is to find out the feasibility and practicability of the study design.

The pilot study was conducted in Apollo main hospitals, Chennai from 4.12.16 to 12.12. 16. A total number of 12 patients were selected for the pilot study. The baseline data of demographic variable proforma and clinical variable proforma were collected and informed consent was obtained from the patients. The subjects were chosen by purposive sampling technique and assigned into two groups, 6 in the experimental group and 6 in the control group. The observation rating scale was used to assess the communication process of aphasic patients. A numeric rating scale was used to identify the patient satisfaction level after using communication board.

### **Ethical Considerations**

- The study was conducted after obtaining permission from HOD, Principal, Ethical clearance from ethics committee of Apollo main hospital, Chennai.
- Consent was obtained from all the patients before the data collection.
- Confidentiality was maintained throughout the study.

### **Data Collection Procedure**

Data collection is a precise, systematic gathering of information relevant to the research purpose. The researcher presented the proposal to the ethics committee of Apollo hospitals and got ethical clearance for preceding the study. The investigator collected the data from Apollo main hospital after obtaining proper administrative permission from concerned authorities. The data collection period was from 15.2.16 to 12.01.17.

A group of 60 aphasic patients were selected by using purposive sampling technique. 30 patients in the control group were selected from Apollo specialty hospital, Vanagaram and 30 patients in the experimental group were selected from Apollo Main hospital. The data was collected for 4 to 6 patients every day. The communication process of both groups were assessed by using rating scale and the level of satisfaction of the experimental group was assessed by numerical rating scale.

### **Problem Faced During the Study**

The problem faced during the study was few patients had fluctuation of GCS, hence for 4 patients did not continue in the experimental group as their hemodynamic status deteriorated.



### **Plan for Data Analysis**

Data analysis is the systematic organization and synthesis of research data and testing of null hypotheses by using the obtained data (Polit & Beck, 2016). Data analysis and interpretation were carried out using descriptive and inferential statistics like mean, standard deviation, t-test and chi square test.

### **Summary**

This chapter dealt with the selection of research approach, research design, setting, population, sample and sampling technique, sampling criteria, selection and development of study instruments, validity and reliability of the study instruments, pilot study, data collection procedure and plan for data analysis.

## **CHAPTER IV**

### **ANALYSIS AND INTERPRETATION**

Data analysis is conducted to reduce, organize and give meaning to the data, the results obtained from data analysis require interpretation to be meaningful. Interpretation of data involves examining the resulted from data analysis forming conclusions, considering the implications for Nursing, exploring the significance of the findings and suggesting further studies (Polit & Beck, 2016).

This chapter deals with analysis and interpretation of data including both descriptive and inferential statistics. The data were analyzed according to the objective and hypothesis of the study. Analysis of the data were compiled after all the data were transferred to the master coding sheet. The data were analyzed, tabulated and interpreted using appropriate descriptive and inferential statics.

#### **Organization of findings**

The findings of the study were organized and presented under the following headings

- Frequency and percentage distribution of demographic variables of aphasic patients
- Frequency and percentage distribution of clinical variables of aphasic patients
- Frequency and percentage distribution of the level of communication before the use of communication board among the control and the experimental group of aphasic patients

- Frequency and percentage distribution of the level of communication after the use of communication board among the control and the experimental group of aphasic patients
- Comparison of Mean and Standard Deviation of communication process before and after the use of communication board in the control and the experimental Group of aphasic patients
- Comparison of Mean and Standard Deviation of communication process before and after the use of communication board between the control and the experimental group of aphasic patients
- Frequency and percentage distribution of the level of satisfaction on communication process of experimental groups of aphasic patients
- Association between selected demographic variables and communication process before and after administering communication board in the control and the experimental groups of aphasic patients
- Association between selected clinical variables and communication process before and after administering communication board in the control and the experimental groups of aphasic patients

**Table. 1**

**Frequency and Percentage Distribution of Demographic Variables of Aphasic Patients.**

Demographic Variables	Control Group (n=30)		Experimental Group (n=30)		$\chi^2$
	f	%	f	%	
<b>Age</b>					
≤35 years	12	40	10	33.33	2.22
36—50 years	8	26.67	10	33.33	
51—65 years	7	23.33	4	13.34	
>65 years	3	10	6	20	
<b>Gender</b>					
Male	19	63.33	22	73.34	0.69
Female	11	36.67	8	26.66	
<b>Education</b>					
Illiterate	3	10	-	-	-
High school	8	26.67	8	26.66	
Higher secondary	11	36.66	9	30	
Graduate	8	26.66	13	43.34	

Data presented in table no 1 shows that 40 % of the control group aphasic patients were in age group of ≤35 years, whereas in the experimental group it is 33.33%. It was also observed that majority were males 63.33% in the control group and 73.34 % in the experimental group of aphasic patients. In the control group 36.66% of the aphasic patients have studied up to higher secondary and in the experimental group 43.34% of the aphasic patients were graduates.

There was no significant difference between the control and the experimental group with regard to demographic variables, indicating the homogeneity of the group.

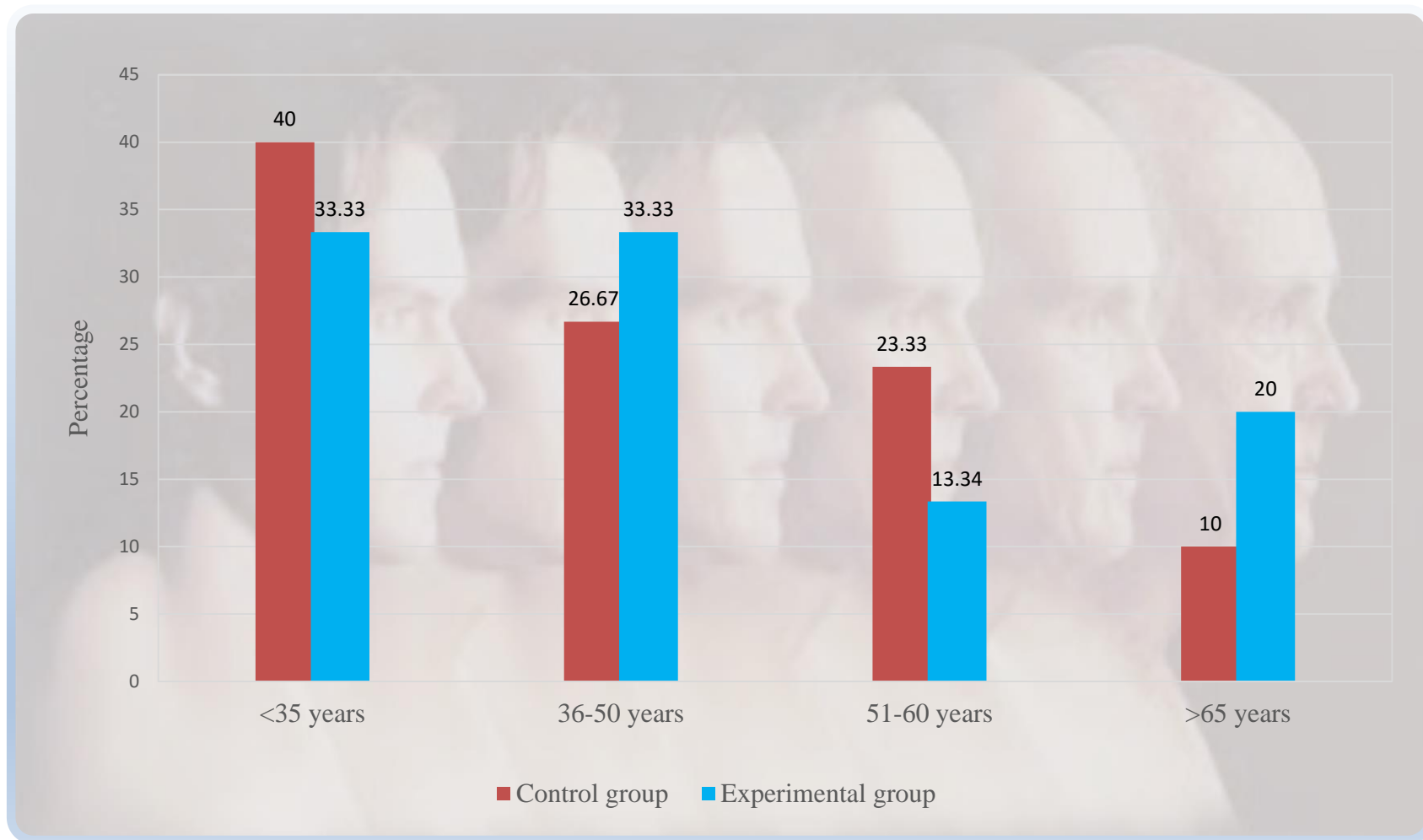
**Table. 2**

**Frequency and Percentage Distribution of Clinical Variables of Aphasic Patients.**

Clinical Variables	Control Group (n=30)		Experimental Group (n=30)		$\chi^2$
	f	%	f	%	
<b>Cause of aphasia</b>					
Stroke	2	6.66	6	20	-
Trauma	8	26.66	6	20	
Neurological disorder	2	6.67	3	10	
Presence of ET tube	11	36.66	9	30	
Any other	7	23.33	6	20	
<b>Surgery</b>					
Yes	7	23.33	10	33.34	0.73
No	23	76.67	20	66.66	
<b>Sedation used</b>					
Yes	8	26.66	7	23.33	0.08
No	22	73.34	23	76.67	
<b>GCS level</b>					
<8	-	-	-	-	0.06
Between 8-12	15	50	16	53.34	
>12	15	50	14	46.66	

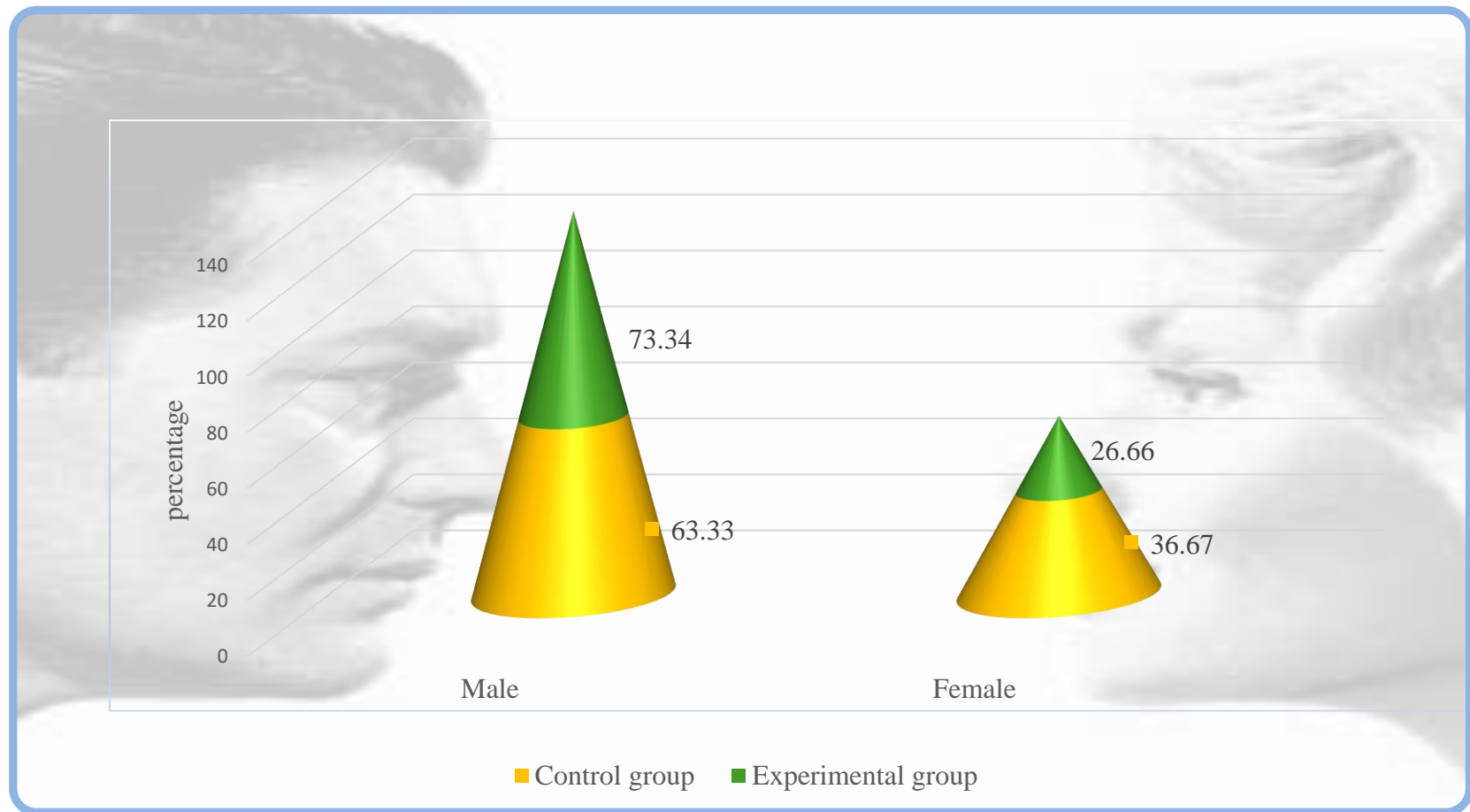
It was observed from table 2 that ET tube was used among 36.66% in the control group and 30% in the experimental group of aphasic patients. Majority of the patients in the control group 76.67% and 66.6% in the experimental group of aphasic patients had no history of surgery. Regarding sedation use, 73.34% in the control group and 76.67% in the experimental group did not use sedation. Fifty percent in the control group and 53.34% in the experimental group had GCS between 8-12.

There was no significant difference between the control and the experimental group with regard to clinical variables, indicating the homogeneity of the group.

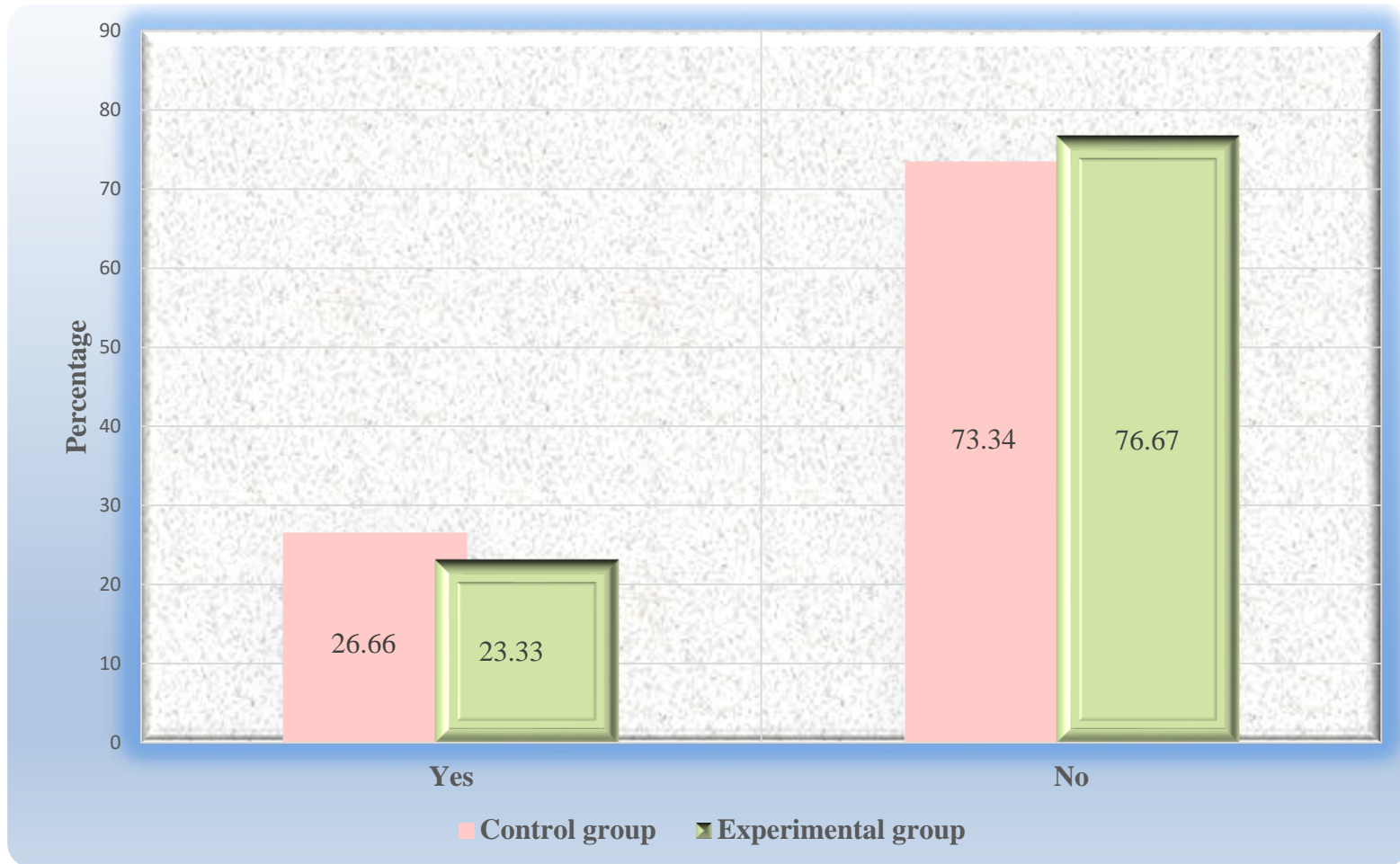


**Fig:3 Percentage Distribution of Age of the Control and the Experimental Group of Aphasic Patients.**





**Fig:4 Percentage Distribution of Gender of the Control and the Experimental Group of Aphasic Patients.**



**Fig: 5 Percentage Distribution of use of Sedation among the Control and the Experimental Group of Aphasic Patients.**

**Figure 3** shows that significant percentage of aphasic patients were aged less than 35 in the control group (40%), whereas in the experimental group 33.33% of aphasic patients were in both  $\leq 35$  and 35-50 years age group.

**Figure 4** represents that in the control group (63.33%) and the experimental group (73.34%) most of the aphasic patients were males.

**Figure 5** shows that in the control and the experimental group (73.34% & 76.67%) most of the aphasic patients have not used sedation.

**Table. 3**

**Frequency and Percentage Distribution of the Level of Communication before the use of Communication Board among the Control and the Experimental group of Aphasic Patients.**

Levels	Control Group (n=30)		Experimental Group (n=30)	
	f	%	f	%
Inadequate	27	90	23	76.67
Moderately adequate	3	10	7	23.33
Adequate	-	-	-	-

Table 3 depicts that majority of aphasic patients had inadequate communication process in the control group (90%), whereas in the experimental group only 76.67% of aphasic patients had inadequate communication process during pretest.

**Table. 4**

**Frequency and Percentage Distribution of the level of Communication after the use of Communication Board among the Control and the Experimental Group of Aphasic Patients.**

Levels	Control Group		Experimental Group	
	(n=30)		(n=30)	
	f	%	f	%
Inadequate	17	56.66	4	13.33
Moderately adequate	13	43.34	17	56.67
Adequate	-	-	9	30

The data presented in the table 4 shows that in the post-test 56.66% had inadequate communication process in the control group, whereas 56.67% had moderately adequate communication process in the experimental group of aphasic patients.

**Table. 5**

**Comparison of Mean and Standard Deviation of Communication Process before and after the Use of Communication Board in the Control and the Experimental Group of Aphasic Patients.**

Assessment	Control Group (n=30)			Experimental Group (n=30)		
	Mean	SD	paired t-test	Mean	SD	paired t-test
Pre test	9.93	5.29	0.06	10.53	6.71	17.34***
Post test	10.01	5.08		27.03	5.64	

**\*\*\*p<0.001**

It can be inferred from table 5, the communication process in the experimental group had high mean score in post-test (M=27.03, SD=5.64) compared to pretest (M=10.53, SD=6.71) of aphasic patients. The difference was statistically significant at  $p<0.001$  level, whereas in the control group there was no significant difference between post-test (M=10.01, SD=5.08) and pre-test (M=9.93, SD=5.29) mean score among aphasic patients

Hence the null hypothesis  $H_0$ 1 stated that there will be no significant difference in the communication process between the control and the experimental group of aphasic patients before and after using communication board was rejected.

**Table. 6**

**Comparison of Mean and Standard Deviation of Communication Process before and after the Use of Communication Board between the Control and the Experimental Group of Aphasic Patients.**

Group	Pre test			Post test		
	Mean	SD	Independent t-test	Mean	SD	Independent t-test
Control group	9.93	5.29		10.01	5.08	
			0.38			12.33***
Experimental group	10.53	6.71		27.03	5.64	

**\*\*\*p<0.001**

Table 6 represents that, the experimental group of aphasic patients had higher mean score (M=10.53, SD=6.71) during pretest in comparison with the control group (M=9.93, SD=5.29) regarding communication process. The difference was not statistically significant. In posttest, the communication process in the experimental group had higher mean score (M=27.03, SD=5.64) in comparison with the control group (M=10.01, SD=5.08) of aphasic patients. The difference was statistically significant at  $p<0.001$  level. The result can be attributed to the effectiveness of the communication board used by the experimental group of aphasic patients.

Hence the null hypothesis  $H_01$  stated that there will be no significant difference in the communication process between the control and the experimental group of aphasic patients before and after using communication board was rejected.

**Table. 7**

**Frequency and Percentage Distribution of the Level of Satisfaction on Communication Process of the Experimental Group of Aphasic Patients.**

Levels	Experimental Group (n=30)	
	f	%
Highly Dissatisfied	-	-
Dissatisfied	5	16.66
Satisfied	16	53.34
Highly satisfied	9	30

The level of satisfaction on communication board in the above table 7 shows that 53.34% of aphasic patients were satisfied and 30% of them were highly satisfied with the use of communication board.



Table. 8

Association between Selected Demographic Variables and Communication Process Before and After Administering Communication Board in the Control and the Experimental Group of Aphasic Patients.

Demographic Variables	Control Group (n=30)						Experimental Group (n=30)					
	Before Therapy			After Therapy			Before Therapy			After Therapy		
	Upto mean	Above mean	$\chi^2$	Upto mean	Above mean	$\chi^2$	Upto mean	Above mean	$\chi^2$	Upto mean	Above mean	$\chi^2$
<b>Age</b>												
<50 years	12	8	0.15#	12	8	1.14#	14	6	0.36#	10	10	-
>50 years	6	4	df=1	4	6	df=1	6	4	df=1	5	5	
<b>Gender</b>												
Male	12	7	0.21	11	8	0.03	15	7	0.21#	12	10	0.84#
Female	6	5	df=1	6	5	df=1	5	3	df=1	3	5	df=1
<b>Educational status</b>												
Upto secondary	14	8	0.88#	13	9	1.13#	10	7	1.21#	7	10	1.22
Above secondary	4	4	df=1	3	5	df=1	10	3	df=1	8	5	df=1

# Yates correlated value, NS=Not Significant

The data from this table denoted that there was no significant association between selected demographic variables and communication process of aphasic patients. Hence, the null hypothesis  $H_02$  stated that there will be no significant association between the communication process and demographic variables in the control and experimental group of aphasic patients was retained.

Table. 9

Association between Selected Clinical Variables and Communication Process Before and After Administering Communication Board in the Control and the Experimental Group of Aphasic Patients.

Clinical Variables	Control Group (n=30)						Experimental Group (n=30)					
	Before Therapy			After Therapy			Before Therapy			After Therapy		
	Upto mean	Above mean	$\chi^2$	Upto mean	Above mean	$\chi^2$	Upto mean	Above mean	$\chi^2$	Upto mean	Above mean	$\chi^2$
<b>Surg</b>												
yes	5	2	0.74#	4	3	0.21#	7	3	0.74#	5	5	0.06
no	13	10	df=1	12	11	df=1	13	7	df=1	9	11	df=1
<b>Sedation used</b>												
yes	7	1	3.74#	7	1	<b>5.25#*</b>	6	1	1.82#	4	3	0.03
no	11	11	df=1	9	13	df=1	14	9	df=1	10	13	df=1
<b>GCS level</b>												
<12	15	3	<b>20.13#***</b>	14	1	<b>19.41#***</b>	16	0	<b>17.1#***</b>	11	5	<b>6.76#***</b>
>12	0	12	df=1	2	13	df=1	4	10	df=1	3	11	df=1

\*\*\* p<0.001, \*\*p<0.01, \*p<0.05, # Yates correlated value,

Table 9 revealed that there was a significant association between GCS level and communication process of aphasic patients in the control group pretest ( $\chi^2=20.13$ ,  $p<0.001$ ), post-test ( $\chi^2=19.41$ ,  $p<0.001$ ) and the experimental group pretest ( $\chi^2=17.1$ ,  $p<0.001$ ) and post-test ( $\chi^2=6.76$ ,  $p<0.01$ ).

There was a significant association between sedation used and communication process in the control group after therapy ( $\chi^2=5.25$ ) at  $p<0.05$  level, whereas there was no significant association between the other clinical variables such as surgery, sedation and communication process of patients using communication board.

Hence, the null hypothesis  $H_{03}$  stated that there will be significant association between the communication process and clinical variables in the control and the experimental group of aphasic patients with regard to GCS and sedation were rejected and the clinical variable with regard to surgery was retained.

## **CHAPTER V**

### **DISCUSSION**

An Experimental Study was conducted to assess the Effectiveness of Communication Board on the Communication Process among Aphasic Patients at Selected Hospitals, Chennai.

#### **Objectives of the study**

1. To assess the level of communication before and after use of communication board among the control and the experimental group of aphasic patients.
2. To determine the effectiveness of communication board on communication process by comparing the communication process between the control and the experimental group of aphasic patients.
3. To assess the level of satisfaction regarding communication board in the experimental group of aphasic patients.
4. To determine the association between selected demographic variables and the level of communication among the control and the experimental group of aphasic patients.
5. To determine the association between selected clinical variables and the level of communication among the control and the experimental group of aphasic patients.

The study was conducted using quasi experimental design among 60 aphasic patients at Apollo hospitals, Chennai. Among sixty aphasic patients thirty patients were used communication board and thirty patients were used existing method of communication.

### **The discussion is presented under the following headings**

- Demographic variables of aphasic patients.
- Clinical variables of aphasic patients.
- Level of communication before and after use of communication board among the control and the experimental group of aphasic patients.
- Comparison of Mean & Standard Deviation of communication process before and after use of communication board between the control and experimental group of aphasic patients.
- Level of satisfaction regarding communication board in the experimental group of aphasic patients.
- Association between selected demographic variables and the level of communication among the control and the experimental group of aphasic patients.
- Association between selected clinical variables and the level of communication among the control and the experimental group of aphasic patients.

### **Demographic Variables of Aphasic Patients**

Study findings revealed that 40 % of the control group aphasic patients were in age group of  $\leq 35$  years, whereas in the experimental group it was 33.33%. It was also observed that majority were males 63.33% in the control group and 73.34 % in the experimental group of aphasic patients. In the control group 36.66% of the aphasic patients have studied up to higher secondary and in the experimental group 43.34% of the aphasic patients were graduates.

There was no significant difference between the control and the experimental group with regard to demographic variables, indicating the homogeneity of the group.

Age is not the factor for affecting the communication process among aphasic patients. Following study also supported the same findings. A study was conducted by Tsai (2013) on Adults' preferences between Picture Communication Symbols (PCSs) and Gus Communication Symbols (GCSs) used in AAC. The results of this study suggest typical adults' preference between PCSs and GCSs did not show any significant difference, the effect of age groups of typical adults did not have any significant effect on their preference between PCSs and GCSs. However, except the group of ages 51-65, the other three groups did consciously show their preferences for PCSs.

### **Clinical Variables of Aphasic Patients**

Study findings depicts that ET tube was used among 36.66% in the control group and 30% in the experimental group of aphasic patients. Majority of the patients in the control group 76.67% and 66.6% in the experimental group of aphasic patients had no history of surgery. Regarding sedation use, 73.34% in the control group and 76.67% in the experimental group did not use sedation. Fifty percent in the control group and 53.34% in the experimental group had GCS between 8-12.

There was no significant difference between the control and the experimental group with regard to clinical variables, indicating the homogeneity of the group.

The result can be compared with similar study conducted by Rinta (2013) to develop a communication board and to identify the needs of patients on a mechanical

ventilator after coronary artery bypass grafting. The study reported that change in position and pain were major needs they wanted to communicate. Other problems reported were thirst, dry mouth, and inability to sleep, choking sensation and feeling itchy. Based on the needs of the patients on ventilator, a pictorial communication board was developed and included that this was an appropriate intervention technique used for intubated patients.

**First Objective of the Study was the Level of Communication Before and After Use of Communication Board among the Control and the Experimental Group of Aphasic Patients**

Majority of aphasic patients had inadequate communication process in the control group (90%), whereas in the experimental group only 76.67% had inadequate communication process during pretest. In the post-test 56.66% had inadequate communication process in the control group, whereas 56.67% had moderately adequate communication process in the experimental group of aphasic patients.

These findings were consistent with the quasi-experimental study conducted by Sanjit et al. (2003) to explore the relationship between intensity of aphasia therapy and aphasia recovery. Findings shows that intense therapy over a short amount of time can augment the results of speech and language therapy for stroke patients with aphasia.

**Second Objective of the Study was Effectiveness of the Communication Board on Communication Process by Comparing the Communication Process between the Control and The Experimental Group of Aphasic Patients**

The communication process in the experimental group had high mean score in post-test ( $M=27.03$ ,  $SD=5.64$ ) compared to pretest ( $M=10.53$ ,  $SD=6.71$ ) among



aphasic patients. The difference was statistically significant at  $p < 0.001$  level, whereas in the control group there was no significant difference between post-test ( $M=10.01$ ,  $SD=5.08$ ) and pre-test ( $M=9.93$ ,  $SD=5.29$ ) mean score among aphasic patients.

Hence the null hypothesis  $H_01$  stated that there will be no significant difference in the communication process between the control and the experimental group of aphasic patients before and after using communication board was rejected.

The experimental group of aphasic patients had higher mean score ( $M=10.53$ ,  $SD=6.71$ ) during pretest in comparison with the control group ( $M=9.93$ ,  $SD=5.29$ ) regarding communication process. The difference was not statistically significant. In posttest, the communication process in the experimental group had higher mean score ( $M=27.03$ ,  $SD=5.64$ ) in comparison with the control group ( $M=10.01$ ,  $SD=5.08$ ) of aphasic patients. The difference was statistically significant at  $p < 0.001$  level. The result can be attributed to the effectiveness of the communication board used by the experimental group of aphasic patients.

Hence the null hypothesis  $H_01$  stated that there will be no significant difference in the communication process between the control and the experimental group of aphasic patients before and after using communication board was rejected.

Communication board have upstanding impact on communication process of aphasic patients. The study findings were supported by similar study conducted by Basso et al. (2003) to find out whether chronic aphasia patients get benefit from a very intensive therapeutic regime. The results revealed that 86 patients recovered out of 100 patients.

Following study also supported the same findings conducted by Melles (2001) in which a magic state was used in an attempt to improve communication for clients with tracheotomies. The results showed that 73% of the clients felt the tool was appropriate for their condition, 86% felt that it facilitates communication with the health care team and the slate was accepted by 96% of the clients.

In another study conducted by Johnson (2008) on functional communication in individuals with chronic severe aphasia using augmentative communication. Pre and post-treatment measures revealed improvement in quality and effectiveness of communication for all participants.

### **Third Objective was the Level of Satisfaction on Communication Process of The Experimental Group of Aphasic Patients**

The level of satisfaction with regards to the use of communication board revealed that 53.34% of aphasic patients were satisfied and 30% of them were highly satisfied with the use of communication board.

Above findings interestingly showed a clear picture that aphasic patients can get avail from communication board. Study findings are also reported in similar study carried out by Dorwin (2016) among patients on mechanical ventilator in Bombay hospital to assess the effectiveness of communication board on the level of satisfaction of communication pattern. The effectiveness of communication pattern in mechanical ventilator patient was tested in terms of level of satisfaction in communication and the findings showed that effectiveness of communication pattern and improved the level of satisfaction.

A study was conducted by Sasmita et al. (2015) on the communication pattern and level of satisfaction among mechanically ventilated patients. The findings showed that 60% patients admitted on mechanical ventilator had poor communication pattern and thus frustrated.

**Fourth Objective of the Study was Association between Selected Demographic Variables and Communication Process Before and After Administering Communication Board in the Control and the Experimental Group of Aphasic Patients**

Study findings represented that there was no significant association between selected demographic variables and communication process of aphasic patients. Hence, the null hypothesis  $H_02$  stated that there will be no significant association between the communication process and demographic variables in the control and the experimental group of aphasic patients was retained.

Demographic variables had no impact on enhancing the communication process of aphasic patients. The results can be compared with similar Prospective, multicentric cohort study on communication disability in stroke patients with aphasia conducted by Mazaux et al. (2013). The findings showed that age, gender, education level, residence status and type of stroke had no influence on communication activity.

**Fifth Objective was Association between Selected Clinical Variables and Communication Process Before and After Administering Communication Board in the Control and the Experimental Group of Aphasic Patients**

Study findings denoted that there was a significant association between GCS level and communication process of aphasic patients in the control group pretest

( $\chi^2=20.13$ ,  $p<0.001$ ), post-test ( $\chi^2=19.41$ ,  $p<0.001$ ) and the experimental group pretest ( $\chi^2=17.1$ ,  $p<0.001$ ) and post-test ( $\chi^2=6.76$ ,  $p<0.01$ ).

There was a significant association between sedation used and communication process in the control group after therapy ( $\chi^2=5.25$ ) at  $p<0.05$  level, whereas there was no significant association between the other clinical variables such as surgery, sedation and communication process of patients using communication board.

Hence, the null hypothesis  $H_{03}$  stated that there will be significant association between the communication process and clinical variables in the control and the experimental group of aphasic patients with regard to GCS and sedation were rejected and the clinical variable with regard to surgery was retained.

Clinical variables have exert influence on communication process of aphasic patients. The findings of the present study can be supported by a descriptive study conducted by Nakayama et al. (2013) on predicting the progression of communication impairment in ALS tracheostomy ventilator users. It showed that the duration from onset to the time of ventilator use and complete quadriplegia had significant effect on the progression from stage I to II, and that the duration from onset to the development of overt oculomotor limitation had significant effect on the progression from stage IV to V. Faster progression may predict the extent of communication impairment after ventilator use.

In another descriptive observational study to describe nurse-patient communication in a medical and cardiothoracic surgical intensive care unit, was conducted by Happ et al. (2011). The results showed that nurses initiated (86.2%) of the communication exchanges and communication exchanges were ( $\geq 70\%$ )

successful. But more than one third (37.7%) of communication about pain were unsuccessful and patients reported 40% of the communication sessions with nurses was extremely difficulty.

### **Summary**

This chapter has dealt with the analysis and interpretation of data obtained by the researcher. The analysis of the results showed that communication board will improve communication process of aphasic patients.

## **CHAPTER VI**

### **SUMMARY, CONCLUSION, NURSING IMPLICATION, RECOMMENDATIONS AND LIMITATIONS**

The heart of the research project lies in reporting the findings. This is the most creative and demanding part of the study. This chapter gives a brief account of the present study, suggestions for the future study and nursing implications.

#### **Summary**

The present study was intended to analyze and establish the Effectiveness of Communication Board on Communication Process among Aphasic Patients at Selected Hospitals, Chennai.

#### **Objectives of the study**

1. To assess the level of communication before and after use of communication board among the control and the experimental group of aphasic patients.
2. To determine the effectiveness of the communication board on communication process by comparing the communication process between the control and experimental group of aphasic patients.
3. To assess the level of satisfaction regarding communication board in the experimental group of aphasic patients.
4. To determine the association between selected demographic variables and the level of communication among the control and the experimental group of aphasic patients.

5. To determine the association between selected clinical variables and the level of communication among the control and the experimental group of aphasic patients.

### **Null Hypothesis**

The null hypothesis stated are

**H<sub>01</sub>:** There will be no significant difference in the communication process between the control and the experimental group of aphasic patients before and after the use of communication board.

**H<sub>02</sub>:** There will be no significant association between the communication process and demographic variables in the control and the experimental group of aphasic patients.

**H<sub>03</sub>:** There will be no significant association between the communication process and clinical variables in the control and the experimental group of aphasic patients.

The conceptual frame work of present study is based on Kings Goal attainment model 1981. According to Imogene King, nursing is define as a process of action, reaction, whereby nurses and clients share information about their perception. Through perception and communication they identify the problems through which they set goal and take necessary action. Kings Goal Attainment theory is based on the concepts of personal, interpersonal and social system including perception, judgment, action, reaction, interaction and transaction.

An extensive literature review and guidance by expert formed foundations for the development of the tool. An experimental research approach was used to achieve the objectives of the study.

The data was collected by the researcher using the tools such as the demographic variable proforma, clinical variable proforma, observation rating scale for communication process and numerical rating scale for assessing the satisfaction level of patients. The data collection tools were validated and reliability was established. After a pilot study, the data for the main study was collected. The collected data was tabulated and analyzed using descriptive and inferential statistics.

### **Major findings of the study**

#### **Demographic Variables of Aphasic Patients**

Study findings revealed that 40 % of the control group aphasic patients were in age group of  $\leq 35$  years, whereas in the experimental group it was 33.33%. It was also observed that majority were males 63.33% in the control group and 73.34 % in the experimental group of aphasic patients. In the control group 36.66% of the aphasic patients have studied up to higher secondary and in the experimental group 43.34% of the aphasic patients were graduates.

There was no significant difference between the control and the experimental group with regard to demographic variables, indicating the homogeneity of the group.

#### **Distribution of Clinical Variables of Aphasic Patients**

Study findings depicts that ET tube was used among 36.66% in the control group and 30% in the experimental group of aphasic patients. Majority of the patients



in the control group 76.67% and 66.6% in the experimental group had no history of surgery. Regarding sedation use, 73.34% in the control group and 76.67% in the experimental group did not use sedation. Fifty percent in the control group and 53.34% in the experimental group had GCS between 8-12.

There was no significant difference between the control and the experimental group with regard to clinical variables, indicating the homogeneity of the group.

### **The Level of Communication before and after use of Communication Board among the Control and the Experimental Group of Aphasic Patients**

Majority of aphasic patients had inadequate communication process in the control group (90%), whereas in the experimental group only 76.67% of aphasic patients had inadequate communication process during pretest.

In the post-test 56.66% of aphasic patients had inadequate communication process in the control group, whereas in the experimental group 56.67% had moderately adequate communication process.

### **Comparison of Mean & Standard Deviation of Communication Process before and after use of Communication Board between the Control and Experimental group of aphasic patients.**

The communication process in the experimental group had high mean score in post test (M=27.03, SD=5.64) compared to pretest (M=10.53, SD=6.71) among aphasic patients. The difference was statistically significant at  $p < 0.001$  level, whereas in the control group there was no significant difference between post-test (M=10.01, SD=5.08) and pre-test (M=9.93, SD=5.29) mean score among aphasic patients.

Hence the null hypothesis  $H_0$ 1 stated that there will be no significant difference in the communication process between the control and the experimental group of aphasic patients before and after using communication board was rejected.

The experimental group of aphasic patients had higher mean score ( $M=10.53$ ,  $SD=6.71$ ) during pretest in comparison with the control group ( $M=9.93$ ,  $SD=5.29$ ) regarding communication process. The difference was not statistically significant. In posttest, the communication process in the experimental group had higher mean score ( $M=27.03$ ,  $SD=5.64$ ) in comparison with the control group ( $M=10.01$ ,  $SD=5.08$ ) of aphasic patients. The difference was statistically significant at  $p<0.001$  level. The result can be attributed to the effectiveness of the communication board used by the experimental group of aphasic patients.

Hence the null hypothesis  $H_0$ 1 stated that there will be no significant difference in the communication process between the control and the experimental group of aphasic patients before and after using communication board was rejected.

### **The level of Satisfaction on Communication Process after Administering Communication Board in the Experimental Group of Aphasic Patients**

The level of satisfaction with regard to the use of the communication board denoted that 53.34% aphasic patients were satisfied and 30% of them were highly satisfied with the use of communication board.

### **Association between Selected Demographic Variables and Communication Process before and after Administering Communication Board in the Control and the Experimental Group of Aphasic Patients**

Study findings represented that there was no significant association between selected demographic variables and communication process of aphasic patients. Hence, the null hypothesis  $H_02$  stated that there will be no significant association between the communication process and demographic variables in the control and experimental group of aphasic patients was retained.

### **Association between Selected Clinical Variables and Communication Process before and after administering Communication Board in the Control and the Experimental Group of Aphasic Patients**

Study findings denoted that there was a significant association between GCS level and communication process of aphasic patients in the control group during pretest ( $\chi^2=20.13$ ,  $p<0.001$ ), post-test ( $\chi^2=19.41$ ,  $p<0.001$ ) and the experimental group pretest ( $\chi^2=17.1$ ,  $p<0.001$ ) and post-test ( $\chi^2=6.76$ ,  $p<0.01$ ).

There was a significant association between sedation used and communication process in the control group after therapy ( $\chi^2=5.25$ ) at  $p<0.05$  level, whereas there was no significant association between the other clinical variables such as surgery, sedation and communication process of patients using communication board.

Hence, the null hypothesis  $H_03$  stated that there will be significant association between the communication process and clinical variables in the control and the

experimental group of aphasic patients with regard to GCS and sedation were rejected and the clinical variable with regard to surgery was retained.

### **Conclusion**

The findings of the study revealed that communication pattern of aphasic patients are not influenced by age, gender and educational status. All aphasic patients have difficulty in communicating their needs to health care team members. This study emphasizes the use of the communication board for aphasic patients to improve their communication pattern.

### **Implications**

The findings the researchers recommends the implications on Nursing practice, Nursing administration, Nursing education, Nursing research.

#### **Nursing Practice**

The nurse needs to understand the importance of Communication and identify the need and problems of the patients. The findings of the study showed that the communication board facilitates communication between intubated patients and nurses. Hence there is a need of implementing the board in hospitals as a part of holistic care. The nurse must update their knowledge in research and try to incorporate those findings into nursing practice.

#### **Nursing Education**

Communication is essential for interacting with the non-speaking patients to identify and understand their needs. Nursing educators must encourage the nursing

students to learn and use the intervention that can improve the communication pattern of intubated patients. The nurse educator can provide service education to nurses about the importance of maintaining an effective communication by the use of Communication board.

### **Nursing Research**

The present study revealed the importance of the communication board and its use among aphasic patients. This study also focuses on improving the quality of nursing care to the patients with communication difficulties. Thus the nurse researchers should conduct further research in clinical setting regarding communication difficulties and the way to solve their difficulties. The findings of the study help to expand the scientific body of professional knowledge upon which further research can be contacted.

### **Nursing Administration**

Administration must arrange for availability of communication aids such as the communication board for the nurses and patients, which facilitates communication among intubated patients. The nurse administrator can disseminate these findings to practicing nurses so that they can incorporate the use of the communication board in practice in critical care settings. The nurse administrator should provide opportunity for nurses to attend training program on the use of the communication board for aphasic patients.

### **Recommendation for Further Research**

- A similar study can be conducted with a large sample, for generalization of study findings.
- A Comparative Study can be conducted using picture board and other communication methods such as electronic devices can be conducted.
- Study can be replicated in other settings also.
- A similar study can be conducted to assess the level of satisfaction among ICU staff nurses dealing with intubated patients.

### **Limitations**

- Sample were selected by using purposive sampling technique as it was not feasible to select by random sampling.
- The Experimental study cannot be conducted due to practical difficulties.

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